



Respectfully
A. H. Chase
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DR. CHASE'S
FAMILY PHYSICIAN,
FARRIER, BEE-KEEPER,
AND
SECOND RECEIPT BOOK,

BEING AN ENTIRELY

New and Complete Treatise,

POINTING OUT, IN PLAIN AND FAMILIAR LANGUAGE, THE CAUSE, SYMPTOMS, AND
TREATMENT OF THE LEADING DISEASES OF PERSONS, HORSES, AND CATTLE,
UPON COMMON-SENSE PRINCIPLES; GIVING INSTRUCTIONS IN
RELATION TO BUTTER AND CHEESE MANUFACTURING AND MANU-
FACTORIES, ALSO FULL INSTRUCTIONS IN BEE-KEEPING,
AND ENTIRELY NEW METHODS OF HORSE-TAMING
OR HANDLING VICIOUS HORSES, BREAKING
COLTS, ETC.; EMBRACING ALSO

A LARGE NUMBER OF ENTIRELY NEW RECEIPTS.

In all departments of household affairs, and every branch of Mechanical Indus-
try, with full explanatory and suggestive notes of great value to the
people—in fact, the PEOPLE'S BOOK—carefully written and col-
lected (from over nine years' extensive correspondence
upon these subjects), and compiled from the
most authentic, scientific, and reli-
able sources, alphabetically
arranged, and

FULLY ILLUSTRATED.

BY DR. A. W. CHASE,

Author and former Publisher of "Dr. Chase's Recipes; or, Information for Everybody."

TO PREVENT DISEASE IS BETTER THAN TO CURE.

TOLEDO, OHIO:
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CHASE PUBLISHING COMPANY, TOLEDO, OHIO.

Entered according to Act of Congress, in the year 1872,

By DR. A. W. CHASE,

In the Office of the Librarian of Congress, at Washington, D. C.

In the Northern States Agents are not allowed to sell Dr. Chase's Family Physician, Farrier, Bee-keeper, and Second Receipt Book for more than two dollars; but in the States of North Carolina, Tennessee, and Arkansas, and in all the States south of those above named, the retail price is established at two dollars and twenty-five cents; and in California, Oregon, and the Provinces of Nova Scotia and New Brunswick, at two dollars and fifty cents, to cover the large additional expense of expressage or freights to these distant places.

PREFACE.

For many years it has been known to me that the People needed and desired a book that should give them, in the plainest language, an understanding of the various Diseases to which they are liable, and also an understanding of how they might successfully *manage* such Diseases with the remedies within their reach, and it has been my highest ambition to place such a book in their hands. This knowledge was gained largely through the publication of my first work, "Dr. Chase's Recipes; or, Information for Everybody," which contained information upon only a few Diseases, except in the form of "Recipes."

The following quotation is a fair sample of letters sent me asking for the publication of such a book. It is from a gentleman of Adams County, Iowa. He says: "I have used your book for *five and a half years* with good success in my family, and with my neighbors, to the *exclusion* of the M. D's. I think you would confer a *great and inestimable* blessing on the Country if you would publish a *small, cheap* work on the subject of Medicine, as your 'Recipes' are *not full enough* on that subject—*does not treat of enough diseases*—good, however, as far as it goes; *Doctors curse it, but Families praise it*. If you should get out such a work as I speak of, I could sell a great many of them."

Yet, while I was carrying on the publication of that Work, together with the publication of a weekly Newspaper and a general "Job Printing office," notwithstanding I often received letters from those who had the "Recipes," asking for *such a work*, or for an additional amount of such information in subsequent editions of that work, I could not obtain time to accomplish so large an undertaking.

But in 1869, the cares and labor of my business, employing about *fifty* hands, so far prostrated my health, that I was laid aside with a severe attack of "typhoid pneumonia," which so far effected my general

health, that I deemed it best to sell out my business and the copyright of the books which I was publishing. And, after a few months I took up my residence in Sauk Rapids, Minnesota, where I remained nearly a year, which, together with proper treatment, so far restored my health as to make it plain to me that I yet had *duties or labors* to perform; for *idleness*, when in health, to me, has always appeared to be highly censurable. Consequently, as my mind had always run after information of a *practical* character, a "*Second Receipt Book*" was the only thing that, to my mind, would fulfill the necessities of the case, hence, this Work was undertaken, and by the blessing of God, is now brought before the People.

And, as it has always been my purpose to give the largest possible amount of information for the least possible amount of money, I have embraced the Principal Diseases of Persons, Horses, and Cattle, their Causes, Symptoms, and Treatment, together with many Receipts for Families and Mechanics, upon subjects not embraced in my first book, as well as much new matter upon some subjects that were embraced in that work, to which my attention had been called from time to time, by those who had that work, among which, especially, was that of Bee-Keeping.

But, in order to embrace so large a range of subjects as are found in this, my "*Second Receipt Book*," it has been necessary to use the *smallest* type that could be *easily read*, and also to *avoid all large headings* between subjects, and also to set the type "*solid*," i. e., not to put strips of type metal (called leads,) between the lines—in other words, *to occupy all the space with reading matter*. In this way "*Dr. Chase's Family Physician, Farrier, Bee-Keeper and Second Receipt Book*," contains more reading matter than is usually sold for *three to four* times as much money.

The Practice of Medicine, undoubtedly *originated with the People*, from the necessities arising among them of relieving the sick of their own families or neighbors. But, in time, it fell into the hands of those who paid especial attention to *nursing* the sick, and finally to physicians who gave their whole time to the sick. And for a long time what was known in that line was written in the Greek and Latin languages, these physicians taking advantage of this fact, still keep their *prescriptions* in these "*dead languages*," so that the common People shall not be able to learn what is known concerning the Treatment of Diseases. And by this means they have monopolized the Practice of Medicine, or kept it within themselves, as the *masses* of the People could not take the time to learn the "*languages*." And they, the physicians, have also ignored, or refused to accept, as facts, all that might be found out by the People in doctoring themselves, re-

jecting them as "grandmother's prescriptions," that were entirely beneath their notice. But in doing this they have rejected very much that is of great value. For instance, take a nurse who has given much of her time to the care of the sick, might it not reasonably be expected that they would become acquainted with *many domestic receipts* that could be depended upon in the cure of disease? If I could have but one to take care of me when sick—the Nurse or the Doctor—I should not hesitate for a moment to say, give me the *Nurse*. They unintentionally acknowledge the same thing, for I have heard many of them say "as much depended upon *good nursing* as upon the Doctor." Every possible advantage has been taken in this "Second Receipt Book" of a very large accumulation of "Domestic Receipts," which have come from "the People," and are hereby returned to them.

As the foregoing remarks embrace the *reasons* for the publication of "Dr. Chase's Family Physician, Farrier, Bee-Keeper and Second Receipt Book," I shall endeavor to set forth in as few words as possible the *especial advantages* to be derived from it by those who may obtain it and keep it by them.

First. It is written in plain language that all persons of ordinary intelligence can understand; and where it has been necessary in quoting from others, or in our own writing, to give the *technical terms* of the Schools, it is immediately followed, in brackets, with the proper explanation, to avoid all necessity of turning to a Glossary or Dictionary for such explanation, by which more or less confusion and annoyance has always been experienced.

Second. In giving the *Causes* and *Symptoms* of Disease in Persons, it enables any one to *avoid*, as far as possible, the Cause, and thus *escape* the disease, while by watching the approaching Symptoms they will be lead to *prepare* themselves to combat them at the earliest possible moment, for want of an understanding of which, many valuable lives have been lost, notwithstanding the means of cure were at hand, or easily obtained. The same difficulty has been experienced in the Treatment of the Diseases of Horses and Cattle, the Symptoms not generally having been given by which a correct Treatment could be determined upon; but in this Work this has been done.

Third. In the Diseases of Horses and Cattle, I have taken the Treatment as pursued by Dr. William Wallington, an English gentleman of about *thirty* years of successful practice, who has adapted his treatment to the diseases of *this Country*, and who uses the medicines of this Country also. This part of the Work has been written with him sitting by my side, from time to time, as found necessary, to give a full and comprehensive view of the Causes, Symptoms,

and Treatment of all of the Leading Diseases of these, the most important of our domestic animals. And, from my acquaintance with him, and from my knowledge of his success, for some *sixteen* years, I congratulate myself in having been able to obtain information, for this branch of the Work, that is so *entirely reliable*. And I would call especial attention to Dr. Wallington's Treatment of Umbilical Hernia in Colts, and also to the subject of Heaves, difficulties which, heretofore, have seldom been cured, but with him *always*, or ever since he adopted the plans herein given, which, together with many other valuable items, or "Receipts," he has most cheerfully placed at my service, as he says, "That they may do the greatest possible amount of good." For he thinks, at least so he says, that every one of the 500,000 persons who have my *First* book will certainly obtain the *Second*, which embraces so much larger an amount of subjects not found in the other; hence, he has the more cheerfully given me valuable "Receipts," in this line, that he had paid out considerable sums of money for, or found out by his own extensive practice. He thinks his average ride in his "Practice of Farriery" amounts to *twenty-five miles daily*; and he drives a horse in it, which formerly had the Heaves so badly that he could not be driven at all. He cured him, and he has not shown a Symptom of them in *four years*; all of which are fully explained in this Work.

Fourth. The first part of the matter on the subject of "Bee-Keeping and Bee Management" was written expressly for this work, by Col. J. R. Hoit, of Sauk Rapids, Minnesota, with whom I became acquainted when living there, and who, from his own successful Management of Bees, in that Northern climate, I knew to be able to give all necessary instruction to enable any one to *Keep* and *Manage* as many as would ordinarily be found *profitable* for Farmers and Mechanics to *undertake* to keep. But the more I considered the matter the more important, did I deem it to be necessary that *this work* should cover the whole ground of "Bee-Keeping" and "Bee Management," hence, I obtained the *prize Essay*, written by Mrs. Ellen S. Tupper, of Des Moines, Iowa, formerly of Brighton, who, for many years past has been, and still is considered one of our most successful writers upon this subject, as well as one of our most *practical* Bee-Keepers. This Essay was written for one of the Agricultural Associations, and won the prize—\$300—and was adopted and published by the Agricultural Department of our Government, in their Reports for 1865; and to make it complete, I have had her introduce into it [in brackets like these], all the improvements made and changes since introduced in the line of Bee-Keeping. I have taken this pains and expense from the fact that outside of the subject of the Diseases of Persons, I think there has been no subject upon

which so much inquiry has been made as upon that of Keeping Bees. And I take pleasure in adding that I fully believe, *all needed information* upon the subjects of Bee-keeping and Bee Management will be found herein, to enable all who desire to engage in this branch of industry to do so with the fullest assurances of success. And I would take advantage of this opportunity to publicly thank these writers, and all others who have in any way so willingly aided me in preparing this Work, which has been so many times asked for, at my hand, *by the People to whom it is now most cheerfully Dedicated.*

Fifth. The last revision and additions to my First Book were made about *ten* years ago, since which time there have been very great improvements made in the *Treatment* of Disease, and upon most other *Scientific* and *Mechanical* subjects, which it has been my object to embody in this Work.

And, probably there is no branch of industry upon which more improvements have been made than in that of *Coloring*. So great and so many have been the discoveries in the Art of Coloring within the past *ten* years, I have (at a much larger expense than any one would suppose, for it requires long practice to make *good colorers*) had Mr. Hiram Storms, of this city, to write out expressly for this Work, such "Receipts" as he has adopted and is daily using in the manufacture of cloth, embracing *all of the improvements* entering into that class of Coloring necessary for *families*; and, from which *manufacturers* may also derive *much valuable information*. For Mr. Storms is a manufacturer of long and extensive experience, about *forty* years, whose *taste*, or genius has led him to investigate and to keep pace with the Scientific Improvements in his business, for his own satisfaction, as well as for the benefit of his customers. And:

Lastly. I may add, no expense has been spared in Engraving for the purpose of Illustrating such parts of this Work as would be the better understood by Illustration; nor has time or expense been spared in ascertaining the facts regarding such subjects as have come up for consideration during *over two and a half* years that I have been employed in preparing this Work for the Press, (the first six months, working *eighteen* hours a day, and for the next four months, *sixteen* hours per day), so that it should be, as nearly as possible, what might reasonably be expected of an Author whose *first work* had already passed into the hands of *more than half a million of the People*, there being scarcely a city, village, or neighborhood north of the range of Philadelphia, Cincinnati, and St. Louis, from Nova Scotia to California, where may not be found one or more of "Dr. Chase's Recipes; or, Information for Everybody." May I not reasonably hope, therefore, that my "Family Physician, Farrier, Bee-Keeper, and Second Receipt

Book," which embraces entirely new matter, and upon a much more extended range of diseases, and other practical "Receipts," containing also about three times as much reading matter as the first book? I ask again, "may I not reasonably hope" that this work shall become almost an absolute necessity in every Family throughout the length and breadth of our extensive Country? And especially might this be expected if the People would consider, for a moment, the comparative difference in the price of THIS WORK, which, with its over six hundred closely set pages sells for only Two Dollars, while many of the Medical Books containing only from 800 to 1000 pages, set with large type, large headings, and leaded matter, purposely to make large books out of but little material, have sold, generally, for from Five to Six Dollars! The advantage being about as three to one, in favor of THIS WORK.

From the foregoing facts, which are as well understood by the People as by myself, I have no hesitation in saying that I fully believe that Dr. Chase's Family Physician, Farrier, Bee-Keeper, and Second Receipt Book will fulfill the utmost expectations of those for whom it has been prepared—THE PEOPLE—and really become THE BOOK OF THE MILLION.

But notwithstanding the fact that the chief object in Writing and Compiling this Work has been for the especial benefit of the People, and to make it as useful to them as possible, yet the Physician and other Scientific Men will find it to contain much that shall prove useful and interesting to them.

This, as well as all other books, however much may be said by their Authors in their favor, must stand or fall upon THEIR OWN MERITS, yet, I will add, that I send this one forth in the fullest belief, from my experience I will venture to say, with the almost positive knowledge that it shall "stand," and truly become DR. CHASE'S SECOND FAVORITE TO HUNDREDS OF THOUSANDS OF FAMILIES.

That the result shall prove my opinions to have been founded upon a sound basis, for the mutual benefit of all concerned, is the sincere desire of the Author,

A. W. CHASE M. D.

ANN ARBOR, MICH., March, 1873.

INTRODUCTION.

REMARKS UPON DISEASE IN GENERAL, WITH REFERENCE TO CAUTIONARY
MEANS OF PREVENTING, WHICH IS BETTER THAN CURE, AND HAVING
REFERENCE ALSO TO CAUTIONARY MEANS OF RESTORING HEALTH.

THERE is no subject of such vital importance to the human family as that of health, *and the best means of preventing sickness and of restoring health after disease has taken hold upon them.* That very much sickness may be prevented, or avoided, I have not a doubt. And I do not think it at all derogatory to the character of the Creator—He in His wisdom having established the plan—to say that He works upon the human family, in what are commonly called Providences, by the use of means. If He does we may hope to do good in prescribing medicines against disease, if not, it is only a useless undertaking.

Can there be any doubt, however, as to the fact that if any considerable number of persons are exposed to a long and terrible storm, becoming completely wet through and chilled, then compelled to camp down without the means of warming themselves and changing their wet clothing for dry, the cold and storm continuing, many of them will take disease more or less severe? When, if they could have reached comfortable rooms, hot fires, changed their clothing, toasted their feet by the fire, got into good warm beds, most of them at least, after a night's rest, would have come out "as bright as a new sixpence," and those who would not would have been such as were feeble, or for some cause were pre-disposed to disease, because there is certainly an inherent power in the healthy system to not only resist disease but to throw it off, to a certain extent, when once begun. The foregoing statements being admitted, or established, we have a *foundation* upon which to build the Practice of Medicine, that no criticism can overthrow, and I believe they are generally admitted, and the observation of nearly *sixty years* has so firmly established them in my own mind that I have no hesitation to proceed with my undertaking; and, indeed, if this point, together with another of equal importance—that of the *specific* (positive and certain) action of remedies—had not long since been established in my own mind I should never have published a Receipt Book of any description whatever.

Notwithstanding there may be considerable difficulty in obtaining such a knowledge of disease as to be always able to distinguish exactly what the disease is of which a person may complain, yet this does not so much depend upon scientific principles as it does upon experience and observation; hence, good *nurses*, who have attended considerably upon the sick, are often better prepared to distinguish diseases than one who has been bred to the *profession* and is yet without much practice. I do not mean to be understood to say that a medical education is of no consequence, for it is of very great importance, but it is not to be compared with practical experience.

And I beg to inform my readers that there will be but little difficulty in distinguishing one *class* of diseases from another, and this, in many cases, will sufficiently point out the course of treatment to be pursued; and it is my purpose to point out the *peculiar* symptoms of particular diseases under their own proper head, so as to enable any person, sufficiently competent to become a *good nurse*, to learn one disease from another, with but little difficulty, and also to point out the various complications that most commonly arise in particular diseases, so that with care and attention, the investigation will be found less difficult than would at first be supposed.

The observation of age, sex, temper, constitution, and previous disease, will be important points in the investigation, as well as in the attempt to cure disease.

Peculiar constitutions predispose to peculiar diseases, and make it important to treat them according to these peculiarities; for instance, a delicate female, or a feeble child, who are confined to indoor exercise only, can not bear the strong treatment of a robust and hearty person who has been accustomed to outdoor labor. Then, again, females are liable to many difficulties which do not afflict men, and their whole system is more complicated, and their nervous system more irritable, requiring greater caution, and they can not bear the same stimulation or evacuations as the opposite sex; hence, it is necessary to use the utmost care with them, until you are certain of what they can bear—the same with children and very old people.

Fear and anxiety as well as a fretful disposition not only occasion but aggravate disease. If the patient has confidence in the nurse or physician, good progress in curing disease may be expected; if this can not be obtained and held, 'tis better to obtain another if possible.

A knowledge as to the place where people have been living will often help to determine the course to be pursued; for those who have been living in marshy districts will be subject to a lower grade of disease than those inhabiting higher and purer sections; and those living in cities are more subject to the same class of disease than those living in the pure air of the country; and those who indulge in late suppers and stimulating drinks are more subject to disease, that are also of a more difficult character, because when you think you have them safe, one indiscretion—perhaps kept from your knowledge as much as possible at least—makes them worse than at first. I always feel that such ought to take care of themselves, but as long as there is life there is hopes of a reformation—alas! how often it fails.

Occupation and manner of life will often help to distinguish disease, and point out the best treatment—the outdoor laboring man would need a stronger dose than one whose occupation was to sit upon the shoemakers' or tailors' bench, even with the same disease.

The present condition of the bowels and urinary organs, diet, manner of life, what medicines has been taken recently, and whether there is any particular condition (called by physicians idiosyncrasy,) of the system which will not tolerate (admit of) the use of any special medicine.

Very much may be done to prevent disease as well as to overcome it when it begins to manifest itself; therefore, especial attention must be paid to this point in disease. Many persons suppose that everything called medicine possesses wonderful power, or secret charm in overcoming disease; and consequently if their friend has taken, or will take some "patent medicine" that the proprietor—aware of this fact—has given a wonderful name they must certainly get well, and that right speedily; but this is all a mistake, and often attended with fatal consequences, by causing them to neglect well-tried means that were within their own reach.

Medicines are, of course, useful, and occasionally even a patent medicine may be just the thing needed; but as its composition is a *secret*, it is far better to depend upon things which are known to be of value, and which they know will not aggravate (make worse) the disease they are seeking to relieve.

The digestive powers are always weakened or more or less disturbed by disease; hence, the diet in sickness ought, in all cases, to be of a light and nutritive character. In cases where disease has been brought on by over-eating, abstinence alone, will often overcome the difficulty.

In cases of inflammatory complications with fevers, pneumonias (inflammation of the lungs), plury (inflammation of the pleura—the membrane that covers the lungs and the whole inside of the chest, *i. e.*, above the diaphragm—midriff), etc., etc., beef tea, gruels and infusions or teas of mucilaginous plants, as arrow-root gruel, panado gruel—made by boiling crumbs of bread to a pulpy consistence, and sweetening to taste, etc.,—this will especially hold good in the low or typhoid fevers when the strength must be held up with beef tea, wines, or brandy, etc. See my own case under the head of TYPHOID PNEUMONIA.

A proper attention to diet in chronic disease will be found fully as important as in acute—recent attacks—especially so in those of a Dyspeptic character, from which low spirits, gas or wind in stomach or bowels, weak nerves, and other hypochondriacal affections arise, receive greater benefit from solid food, with a proper amount of brandy or other good spirits after the meal, than from all the carminatives and cordials that can be administered. See DYSPEPSIA.

The advantages of paying especial attention to diet in disease is distinctly seen in the fact that in Scurvy none of the "patent" antiscorbutics of the mariners' chest can compare, in curing the disease, to a restored *vegetable* diet.

And medical writers inform us that "in consumptions when the humors (fluids of the body) are vitiated and the stomach so much weakened as to be unable to digest the solid fibres of animals, or even to assimilate the juices of vegetables, a diet consisting chiefly of *milk* will not only support the patient, but will often *cure* the disease after every other medicine has failed." *This I can fully endorse substituting fresh sweet cream for the milk, with the addition of a table-spoonful of good brandy with each half pint; for I have often prescribed it in consump-*

tion, and used it myself in typhoid pneumonia, and also in other cases with the happiest results.

Great benefit will also be derived by a proper ventilation of the sick-room, and for those who are able to take outdoor exercise, either by walking, carriage, or horseback riding as their conveniences and strength will allow—horseback riding especially, has been reported to cure many cases of incipient (beginning) consumptions.

In chronic diseases where there is a relaxed or soft condition of the flesh, cold, or tepid bathing, as it can be best borne, with gymnastic exercises, or field labor, as it can be done without fatigue, will be very beneficial.

It is also of the utmost importance to avoid a costive condition of the bowels, especially of a chronic (long continued) character.

And last, though not of the least importance, cleanliness—which is said to be next to Godliness—is of the utmost importance; and, in fact, without it and attention to diet, it is of but little use to try to cure disease, or to keep long free from it when well; yet I am not one of those who believe in the “everlasting washing,” as some have taught it—every day, Winter and Summer, even in ice-cold water, but in ordinary health, at least, *once a week in Winter and twice a week in Summer*, in water that is comfortable to the feelings, not so cold as to strike a dread upon the thought of bathing, nor so hot as to relax the surface so but what it will even regain its pleasurable elasticity and an increased feeling of comfort for having bathed, whether it be cool or warm water.

It is but proper, in support of the foregoing opinions, that I should give a few quotations from authors to whom great credit has been given for wisdom and sound judgement in the means of preventing disease as well as in restoring to health.

Graham, says: “I have seen hundreds of miserable dyspeptics who had suffered almost everything for years; scores of those apparently consumptive; many afflicted for years with fits and spasmodic affections, or asthma, or sick-headache, in short, I have seen nearly every form of chronic disease, after resisting almost every kind of medical treatment for months and years, yield in a very short time to a correct diet and a well-regulated general regimen.”

Cheyne, a celebrated English physician of about 100 years ago, says: “It is not easily to be credited what wonderful effects, even in the most desperate and universally-condemned-to-death diseases, I have seen produced by an *exclusively milk and grain diet*; and even these the thinnest and least in quantity the person could be tolerably easy under from the pain of hunger, and continued for *one, two or more years*. *Epilepsy* totally cured, universal *lepers* made clean, *stone* and *gravel* laid quiet, *cancers* healed and palliated, *ulcerated lungs* made sound, and *schirrous* (a cancerous, hardened) liver made pervious (so that the fluids would pass through it), and all accomplished by a total obstinate and continued *milk and grain or coarse flour diet*. I firmly believe, and am as much convinced as I am of any natural effect that water drinking only, with a diet of milk, grain and fruit, duly continued and prudently managed with proper evacuations, air, and exercise, are the most infallible antidotes for all obstinate diseases of body and mind. This regimen I have for the last *twenty years* pursued.”

It would seem from this last endorsement that Graham is not the only one who believes in "Graham bread."

Beach, says: "*When the various functions (the special action of the different organs of the body taken as a whole are called functions) of the body are performed with ease and suffer no interruption, the body is said to be in health; in a contrary case, it is diseased.* Considering the many dangers to which man is exposed, it is surprising that he should remain in health so long as he does, and our astonishment increases when we reflect how often he escapes the dangers prepared by his own hand. B. *Parental Nature*, (the *vis medicatrix nature* of the ancient writers, the strength of power of our systems to correct and restore health under disease,) 'frequently repairs the injury unknown to us.' To sit down supinely, (indolently, carelessly,) 'with the notion that if the Majesty of Heaven wills us to die we certainly shall, notwithstanding we use the means to prolong life; and, if He wills the contrary, we shall live, notwithstanding we neglect the use of those means, is a conduct as unscriptural as absurd.' Disease may be considered the consequence of the moral, or rather of the immoral conduct of man, in deviating from a line prescribed by his Maker."

It should be added here, that many times, of course, diseases arise from our ignorance of Natures' Laws, and sometimes from exposures, etc., which we could not avoid; hence, no actual guilt attaches to the violator and sufferer.

Sir William Temple, says: "O Temperance, though physician of the soul as well as the body, the best guardian of youth and support of old age, the tutelar goddess of health and universal medicine of life that clears the head and cleanses the blood, that eases the stomach and purges the bowels, that strengthens the nerves, enlightens the eyes and comforts the heart; in a word, that secures and perfects digestion, and thereby avoids the fumes and winds to which we owe the colic and those sharp humors (fluids) that feed the scurvy and gout, and those slimy dregs and humors of which the gravel and stone are formed within us, diseases to which mankind are exposed rather by the viciousness than frailty of our nature, and by which we often condemn ourselves to greater torments and miseries of life than, perhaps, have yet been invented by anger and revenge, or inflicted by the greatest tyrants upon the worst of men. And, yet, so little notion have the generality of mankind of the *virtue of temperance* that life with them is nearly one continued scene of *intemperance*."

"How quickly does the pursuit of carnal pleasures, or the abuse of intoxicating liquors ruin the best constitutions? Indeed these vices too often go hand in hand, especially in cities. Hence it is that we so often see the votaries of Bacchus, the god of wine, and Venus, the god of beauty and love, even before they have arrived at the prime of life, worn out with diseases and hastening with swift pace to an untimely grave. Did men *reflect* upon the painful diseases and premature deaths which are daily occurring through these direful habits, it would be sufficient, one would think, to make them shrink back with horror from the indulgences even of their darling pleasures."

But the worst is "the innocent too often feel the direful effects of it. How many wretched orphans are to be seen embracing dung-hills whose parents, regardless of the future, spent in riot and debauch, what might have served to bring up their offspring in a decent manner! How often, too, do we behold the innocent but suffering mother

with her helpless infants pining in want, while the cruel father is indulging his insatiate appetites.

"A life of irregularity and intemperance has the *certain* effect to destroy persons of the best constitution even in the prime of life; while on the other hand, regularity and temperance will frequently preserve men for a great length of time who are of a very delicate or bad constitution and far gone in years. Whoever will read the life Lewis Cornaro must be convinced of this. This Venetian had been addicted to a life of intemperance up to his *fortieth* year, the consequence of which was that a heavy train of infirmities had invaded him and made great inroads on his constitution; and after having, to no purpose, tried every means of relief that art and medicine admitted of, he at last, by the advice of his physicians, entered on a life of the strictest temperance by which he regained his health and lived to the good old age of over 100 years. Daily observation has, indeed, fully convinced me that an elderly man, even of a delicate constitution, who leads a regular and sober life, has a better chance of a *long* one than a *young* man of the best constitution, who invariably leads a disorderly one.

"But when it is considered that many serious disorders are attributable to an improper *diet*, and that in almost every complaint the due direction of diet is, perhaps, of equal importance with the prescription of medicine, it is highly blamable to neglect this *powerful* resource. To delicate women and sickly persons, to pregnant women, and those who are wet nurses, and to young children, restrictions on diet are *absolutely necessary*."

Hippocrates, who is called "the father of medicine," has wisely observed that if a man eats sparingly and drinks little, he is nearly certain of bringing no disease upon himself, and that a moderate supply of food nourishes the body best, and the quantity of food which nature really requires for her support is small, and he that lives temperately and eats and drinks moderately at each meal, stands fair to enjoy sprightliness, vivacity, and freedom of spirits. Persons who are governed by temperance and regularity, are rarely hurt by melancholy or other affections of the mind. To have a clear head we must have a clean stomach, for this is the grand reservoir in which the food is first deposited, and thence its nutritive power is distributed through all parts of the body."

One of the greatest errors that many people fall into is that of eating too much at a meal, distending the stomach and over-burdening the digestive powers, causing the retention of food in the stomach longer than the laws of health will permit; hence, the food undergoes fermentation giving rise to gas or "wind in the stomach" and bowels, sour belchings of watery fluids, stupor, or sleepiness, headache, and finally the horrors of dyspepsia.

Beach says: "He that consults his health must check his appetite, and invariably rise from the table with the ability and disposition to eat and drink still more than he has done without over-distention of the stomach. He should also diligently apply himself to discover what kinds of food are best suited to him. The best rule will be not to take any thing but in such quantity as the stomach can easily digest, and to make use of only those things, which from observation and experience, the person has found to agree with him. The quality as well as quantity is, therefore, to be taken into consideration. By

repeated trials and experience any man may acquire a *perfect* knowledge of his constitution, and ascertain not only what food, but likewise the liquor, that best agrees with his stomach, and in regulating his diet, he may place a safer reliance on his own judgement than he can on the opinion of his medical attendant, be he ever so skillful."

Attention to Diet and Temperance is not only necessary for the *preservation* of health, but is of equal importance in the *cure* of disease; and very many diseases, especially of a dyspeptic character, may be cured by these precautions alone. Therefore, all over-eating, by which the coats of the stomach are distended beyond a healthful condition, and which is more likely to arise if one partakes of a great variety of dishes, should certainly be avoided. Hence, the more simple the diet the better, provided the food is of a healthy character.

Dr. Cheyne thinks that *most* of the chronic diseases, the infirmities of old age and short lives, are to be attributed to *over-eating and drinking*; and that they may be prevented or cured by proper attention to these points.

"But, if *abstinence* is not sufficient for the *cure* of disease, yet it greatly assists the operation of medicines, and is a preventive against a multitude of *dangerous* disorders. Several writers relate extraordinary cures performed by it, and many instances of its extending the time of human life. It is, indeed, surprising to what a degree of age the early Christians of the East, who retired from persecution into the deserts of Arabia and Egypt, lived healthful and cheerful, on a very little food. Cassian assures us, that the common allowance for 24 hours was only 12 ounces of bread and mere water; and adds, that on this spare diet, Arsenius, tutor to the Emperor Arcadius, lived 120 years, and many others to nearly the same age. A man of the name of Laurence preserved his life to 140 years, by temperance and labor. And Spotswood mentions one man who attained the age of 175 years, by means of proper abstinence."

"Wonderful cures, says Dr. Meuse, have been affected by simplicity of diet. The father of Prof. Cooper of South Carolina, was cured, in London, of an *asthma*, to which he had been long subject, by an exclusive diet of *boiled carrots for two weeks*, as recommended by John Wesley, in his 'Primitive Physic,' during this time he drank little water. He remained well for 12 years; but having returned to his former generous living, he was again attacked. I have heard of another cure by the same diet.

"The disease called 'broken wind,' (heaves) in horses, which is no more than asthma in the human species, is cured in England, by an exclusive diet of the same vegetables.

"A lady in Philadelphia was cured of a most severe rheumatism by a diet of milk solely; and Dr. Cheyne records that Dr. Taylor, a contemporary (living at the same time) with himself, was cured of epilepsy by the same diet.

"In eating our food, due care should be taken to chew, or masticate it sufficiently, previous to its being swallowed. This is a point deserving of a *very strict attention*, and may be deemed the *first* process of digestion, for without the solid parts of our food being well triturated (ground to a fine powder in the mouth, which at the same time is incorporated with a due proportion of salivary secretion, a secretion thrown out by the glands emptying into the mouth,) it cannot be converted into healthy nutriment.

"The simplicity of aliments, or food, and temperance are, in fact, the abundant sources of health and life. It is sufficient, says Plutarch, to have the taste of *true* pleasure to be temperate. Regimen has the greatest influence, not only upon the physical (bodily), but on the mental part of man."

These being the facts, as established by the observations of the best men, all along down through the ages of time, to the present, are they not of sufficient importance, to receive the strictest attention of all those who believe themselves responsible to their families, and to the all-wise Creator, and of those who are not willing to suffer the consequences of their faults, without complaint. Those who will not pay attention to what has already been said upon these subjects would not give heed "though one should rise from the dead;" and tell them the same facts; hence, I need not follow this part of our Work by further remarks, or quotations; and shall only add a few remarks on the subject of *vegetable*, as compared with *animal* food.

Some claim that vegetable food only should ever be used; and their principal argument is, that it is easier of digestion, and less likely to putrify and ferment in the stomach than animal food; claiming also that the bile is more healthy, and that the peristaltic motion of the bowels is kept up (that motion of the bowels called also vermicular, or a kind of claspings or contracting and relaxing of the intestines in rings, passing the food forward from the contracted part into the relaxed part below), preventing costiveness, which is the source or cause of many diseases; and especially so when the diet is largely made up of apples, peaches, pears, prunes, raisins, tamarinds, plumbs, or berries, which are known to keep the bowels solvent, or moderately loose; but I believe in a moderate and proper use of meat as well as vegetables unless it be in particular cases of disease, for a time, and that it is of just as much importance in some diseases to have animal food, or its nutritive parts—what should we do without beef tea in typhoid and other low grades of fever? Notwithstanding, it was claimed by others long before Darwin was born, that no matter whether we consider the *teeth* and *jaws* or the *stomach*, the human race, closely resembles that of the monkey, all of which, in their natural haunts eat *only* vegetable food; but, I beg leave to say here, that I no more believe that the human family originated from the monkey than I do that we come "by chance"—without a Creator; but, that I fully believe that man is the highest *manifestation* of the highest wisdom and skill of Him who made the Worlds, and holds them in their whirling orbits, by His own Almighty power. And I also as fully believe that it is pleasing to Him to see us, not only doing all we can to promote our own health and consequent usefulness; but also that He desires us to do the greatest possible amount of good we can to others, and holds us responsible for any neglect, upon our part, in the whole matter; and, it is upon this ground, and upon this belief, that the writing of this Second Receipt Book was undertaken, and accomplished; believing that a greater good would be done to my fellow creatures, than in any other way in which I could use the improved health, that in His wisdom he had given me.

It is generally acknowledged that a majority of the Diseases to which the human family are liable, would get well of themselves, even without the assistance of the physician, or medicines, with proper care, or nursing; for it is also a well established fact that there

is a principle in nature calculated not only to throw off disease; but also to prevent an attack. The most carefully conducted experiments have settled this fact beyond a doubt. Some physicians have called this by one name and others by another. Nature is said to perform these cures.

Dr. Williams, says: "In organized beings, a certain conservative power, which opposes the operation of noxious agents, and labors to expel them when they are introduced. The existence of this power has long been recognized, and in former days it was impersonated (named). It was the *archæus* of Von Helmont; the *anima* of Stahl; the *vis medicatrix nature* of Cullen, etc. But without supposing it to be aught distinct from the attributes (property, or power) of living matter, we see its frequent operation in the common performance of excretion (the passages from the bowels, urinary organs, and the skin, by sweat, is excretion—the excrements); in the careful manner in which the noxious products of the body, and offending substances in food are ejected from the system; in the flow of tears to wash a grain of dust from the eye; in the act of sneezing and coughing to discharge irritating matters from the air passages, and in the slower, more complicated, but not less obvious example of inflammation, effusion (passing out) of lymph (a colorless fluid) and suppuration, by which a thorn or other extraneous object is removed from the flesh.

"This *vis conservatrix* (strength to preserve health) is alive to the exciting causes of disease, and in persons of full health it is generally sufficient to resist them. How it resists them will depend upon what they are. For instance, is cold the cause? This throws the blood inwardly, which, by increasing the internal secretions and exciting the heart to increased action, establishes a calorific (heat producing) process which *overcomes* the cold. Is the cause improper food? The preserving power operates by discharging this speedily by vomiting, or by diarrhea. Is it a malarious or contagious poison? It is carried off by an increase of some of the secretions. But, if this resisting power be weakened, locally or generally, or if the exciting cause is too strong for it, then the cause acts, and disease begins."

And now then, all that is required of the *physician*, or *nurse*, and in fact, all that they *can* do is to *aid* these principles of action in the system; and to do this to the best advantage, makes the *best* doctor.

The questions to be settled, then are, what course does *nature* pursue, to remove disease, and how can we best assist her in this work?

In fevers, and acute, or recent inflammations this is accomplished by a concentrated action of vital forces, causing an increased secretion by the organs that in health, throw off these harmful materials from the blood; such as the kidneys, skin, and glands that open into the intestinal canal—causing an increased flow of urine, perspiration, or loosened action of the bowels; but if the disease becomes pretty active, or firmly established, one, or more, of these organs becomes more or less inactive; and according to the degree of this inactivity will be the severity of the case; yet, if a favorable result is ultimately obtained, whether by *nature*, or with the aid of medicine, the secretion will be restored, and, probably largely increased, as the disease declines; and the prevailing opinion among medical writers is that this increased secretion is not the necessary process of, but the *result* of the cure. But these same authorities forget to inform us that the system will, in about *three-fourths* of the cases, relieve itself of disease

In support of this position, I shall quote from Prof. Scudder's "Domestic Medicine." This author is a professor in the Eclectic Medical Institute, of Cincinnati, Ohio., and author of the "Eclectic Practice of Medicine," "Diseases of Women and Children," "Specific Mediation and Specific Medicines," also a work on "Inhalation," and Editor of the "Eclectic Medical Journal," of the same place; so it may be seen that, at least, with Eclectics he is "a power." He says upon the subject of "How does Nature remove Disease," and our proper method of helping her to do it:

"Any one who carefully examines the properties and action of all the most prominent articles of the *materia medica*, can not fail to be convinced that a very large majority of them owe their beneficial effects either to a direct or indirect action in increasing *excretion* and the elimination (throwing off) of morbid materials from the system. Thus the classes of *diaphoretics*, *diuretics*, and *cathartics*, act directly in this way, and are administered for this purpose. The entire class of *aperatives*, also, undoubtedly owe their beneficial influence in most part to their eliminating action. *Emetics* not only act directly as eliminatives, by causing the evacuation of morbid secretions from the stomach, but also indirectly by their *sedative* and *relaxing* effects upon the system when under a high state of excitement, this relaxation being almost invariably followed by an *increased action* of the skin, kidneys, and bowels. So with the prominent class of *sedatives*, though not directly affecting the secretory apparatus, yet by their controlling influence in lessening the circulation, high vascular excitement is subdued, and secretion is the natural result.

"If we trace the course of any general disease where no treatment has been pursued, we will find that increased secretion and consequent elimination always precedes a change for the better; and the same is true when even the most opposite remedies have been used. Without this increased elimination does take place, death is inevitable. Acting on these views, Eclectic physicians have been very successful in treating the common acute diseases of this country. Their attention has been especially drawn to the importance of due attention to these emunctories, (any organ that carries off useless or injurious matters) and a large portion of the treatment is directed to stimulate elimination in this way. In addition to this, the fact generally recognized by them, that in disease there is always a depression of the vital force of the system, and that this should be kept up by *tonics* and *stimulants*, has also added materially to their success.

"That nature is able to cure almost all curable diseases, is clearly proved by the results of homœopathic treatment. There are but comparatively few who have any faith in their *attenuations* and *dilutions*, and yet we find that more favorable results are obtained under this plan than under the old depletive system. This well-known fact is sufficient evidence that the sick will get well without medicine. and that medicine said to be scientifically administered, is responsible for no small percentage of deaths under regular treatment." (I am glad to be able to say, of the "regulars" in the University of Michigan, for some years past, great advance has been made from, or upon the old blood-letting, and mercurializing system).

"If this be so, you might well ask me, what is the use of physicians, or medicine? The province of medicine is undoubtedly to place the system in such condition that it can resist disease, remove

such material as may endanger the integrity of its structure, and repair such lesions of structure as may be produced. As examples: the stomach has been overloaded with crude indigestible material, its function is impaired, the entire system sympathizes, and the person is sick; nature will sometimes remove the offending material by vomiting, at others, by the bowels; art (the nurse or physician) steps in, gives an emetic, and the disease is at once arrested. The bowels become torpid, secretion is arrested, and the material remains to some extent in the blood, impairing the functions of the entire body; the natural powers of the system will be sufficient in a very large majority of cases to re-establish the secretion, but days may be required; art gives a cathartic, and the secretion is at once restored. The person has been exposed to vegetable malaria. The blood is poisoned, and fever is the result. In a very large majority of cases, nature is sufficient to remove the disease, but weeks may be required to effect it; art steps in, and by the use of remedies to restore the secretions, and quinine to restore innervation, (to the nervous system) and for its antagonistic action to the malarial poison, the disease is arrested in two or three days. In continued fever, as we have already seen, the disease will be removed by the natural powers of the system in 75 or 80 per cent, of the cases, but a period of weeks will be required; art furnishes a special sedative, (*veratrum viride* and *aconite*) which quiets the excitement of the circulation, and relaxes the system, and remedies which re-establish the secretions, and thus in a few days the fever poison is removed. We do not in these cases save life but in few instances, because but few would die if left to the natural powers of the system. We do, however, shorten the period of sickness two-thirds or three-fourths, save much suffering, and prevent that great exhaustion and impairment of vitality which would frequently result. *In doing this, we rest our claim as benefactors of humanity.*

"In other cases we set up a different action in the system, which is but temporary, and unattended with danger, to relieve disease of some important organ or part. We thus give stimulant cathartics in inflammation of the brain and other organs, diverting determination of blood from the part originally diseased to the bowels, and thus lessening or arresting the inflammatory action. For the same reasons we use the sinapism, (mustard plaster) blister, cups, or irritating plaster.

"In others again we are enabled to employ a *specific*, which acts directly upon the diseased structure, restoring its healthy function, or neutralizing the poison which is the cause of the diseased manifestation. *As examples of this, we may instance the employment of the tincture of muriate of iron in erysipelas, the use of belladonna in scarlet fever, the drosera, (drosera Rotundifolia—Sundew—a small plant growing in bogs in Europe and America, near muddy shores, or ponds or rivers, etc.,) in whooping-cough, and the cough of measles, the bromide of ammonium in some cases of epilepsy, etc.* It is true, doubtless, that in the strict acceptation of the term, we have no specifics in medicine, but it is only, as I believe, because our knowledge of disease and the action of remedies is imperfect.

"In other cases we stimulate the various organs to a better performance of their functions, (particular actions) and furnish to the body the material for increasing its tonicity and repairing the waste

of structure. For this purpose we use the *bitter tonics, iron, phosphorus, sulphur*, the alkaline bases of the blood and tissues, *acids, and fatty, and albuminous*, (egg-like) material that is easily appropriated.

"In all that we do, we keep constantly before us the physiological action of the different organs or parts, and the normal, (healthy) action of the body as a whole, and as far as possible, bend every means to get such normal action. And finally, we carefully husband our patient's strength and power, and prevent their unnecessary expenditure or their direction in a wrong channel. This, it seems to me, is the line of duty for the physician, and the only one in which his efforts will be attended with success."

But before I enter upon the description of Medicines which may be used, I wish to say a word about an item or two which may not be used, *i. e.*, *bleeding* and *calomel*; and I am very glad (for the sake of humanity and for the honor of that class of physicians who delight to be called "the regulars," but who were the *original* Quacks, and who now delight to call everybody else Quacks who does not bow to their dictum, to be able to say, that generally, they do not resort to these horrid practices, *once*, where they used to do so a *hundred* times; in other words they are becoming Eclectic as fast as they can become acquainted with our truly valuable remedies.

"This Medicine was introduced in 1493, by Paracelsus, of Switzerland, who was the great prototype (type or model, in this case the leader) of all succeeding Quacks, as the Germans called all Quacks who used it, from the name Quacksilver, given to it by them; but, in the year 1871,—378 years after it was introduced, and had, undoubtedly, *killed its hundreds of thousands*, it was announced, in the Medical Department of the Western Home, this Department being under the management of R. A. Gunn, M. D., Professor of Surgery in Bennett Medical College, of Chicago, "*that the old theory of the use of mercury as a medicine is exploded*;" but I give the whole item, for the satisfaction of those who have not yet seen it; for there will be some, no doubt, who will cling to it yet, like a drowning man is said to cling to a straw. The announcement is as follows:

"THE USE OF MERCURY AS A MEDICINE.—For a long time public opinion has been opposed to the use of mercury as a medicine; and whenever a physician would prescribe it in any form, many objections would be raised by the patient and his friends.

"Though the people looked upon it as a dangerous medicine, yet in the worst form of a disease many would gladly take it as affording the only chance for recovery, and the physician prescribing it also looked upon his favorite calomel as his sheet-anchor in the cure of disease.

"But a change has taken place, and we are now informed that *mercury* does not possess any virtue as 'a medicine to act on the liver.' *Scientific investigation has demonstrated that mercury does not increase the flow of bile from the liver, but, on the contrary, that it diminishes the quantity of that secretion; and hence the old theory of the use of mercury as a medicine is exploded.* As its action on the liver was all that its advocates claimed for it, and as this supposed action is now disproved, it *it must necessarily be dropped from the list of remedial agents, and fall into that obscurity its injurious effects have enforced.*

"For the benefit of those who may not be acquainted with the fact, we would state that a committee of *seven of the ablest men of Europe*

were appointed to investigate the action of *mercury*, and after continuing their experiments over a period of *three years*, they proved beyond the possibility of a doubt that the flow of bile from the liver was diminished instead of increased by its use, and further, *that its use always produced an injurious effect on the system.*"

Such an acknowledgement as this coming from Prof. Gunn, formerly the Professor of Surgery in the Medical Department of the University of Michigan, and now holding the same position in the principal Alopathic College west of here—Chicago—*ought to be considered sufficient to settle the question of the impropriety of the further use of mercury as a medicine.* It should never be used. It never should have been used; and it is cause for great rejoicing to the human family, which has so severely suffered from its use, that it has finally received its "*death stroke*," even "in the house of its friends."

What has brought this about?

For very many years, large numbers of the people had become satisfied that it was a very injurious article to be used as a medicine; but until about fifty years ago, it had ruled supreme, in the hands of the "regulars" that is, up to about that time, and for a few years later, it was the "regular" destroyer of life and happiness to thousands who suffered it to be administered to them.

But about this time there arose an eminent physician, by the name of Wooster Beach, whose eminence, at that time consisted in curing his patients without the use of *mercury or bleeding*; and he published the "American Practice," for family use, condemning, in the strongest terms, both the *lancet and mercury*; and he and his followers have persisted in that condemnation to such an extent, and shown "a more excellent way," that finally, those who advocated their use either from fear of losing their practice, or from a sense of duty, no doubt sometimes one of these causes and sometimes the other, first induced a consideration of the question—then finally, their good sense caused them to gradually open their eyes to their utter unfitness for the prominent places they occupied; but in the meantime Eclectic Medical Colleges were opened for the education of young men for this Profession, until there is now over 5,000 well educated men in the practice of medicine, according to the rules of what is now known among us as "American Eclecticism," in contradistinction to the Alopaths who *claim* that they are the *true* Eclectics. I hope it may prove so in the end; but there is too much illiberality as yet, except in the smaller number, to claim such an honorable title.

Beach, with a few co-laborers, in the cause of *medical reform*, established an Eclectic College at Worthington, Ohio; but this was not kept up but a few years; after which the Eclectic Medical Institute of Cincinnati, Ohio, was established and it has become, in my estimation, at least, the best organized institution among us, and the time is not far distant when there will be one, at least, of their representatives in every neighborhood of our whole country; and if they have as good success in their profession, as has generally attended them heretofore, they will be welcomed by the *people*.

The "Institute" at Cincinnati was burned during the past year; but it has been re-built and re-opened, with a better equipment, and better success than before the fire. This is a mere statement of the facts that has led on, from a small beginning, to the final triumph over the *use of mercury and the abuse of the lancet*. For particulars

about the Eclectic Medical Institute, and of the University of Michigan, see the cuts in this Work illustrating these institutions.

To show our readers a little of the *abuse* of the *lancet*, I will give a single quotation only, from Dr. Beach's *American Practice*. He says:

"Dr. Sandwich, an English surgeon, has written a treatise recommending, in the highest terms, the most copious depletions (*bleedings*). He informs us that in *every* species of inflammation it is necessary, to bleed in quick succession; and that, 'unless we *speedily repeat* our bleedings, we often actually increase the violence of the disease, and convert what was mere congestion (unnatural accumulation of blood in the part) into positive inflammation.' He, indeed, lays down the following position as a practical maxim, (a condensed proposition, to be regarded as an important truth): 'Whenever an inflammation is not cured by the first bleeding, the operation should be repeated every two, four, or six hours, until it is.'"

"Dr. Sandwich presents a case in point, viz.: of pneumonia (inflammation of the lung), in which 30 ounces of blood were first taken at 12 noon. At 8 o'clock 30 leaches were applied to the affected side. At 6 next day, 20 ounces more blood were taken; in the evening 60 small leaches were applied to the side. On the third day, at 6, the pulse being 110, 20 ounces of blood were taken, and a consulting physician sent for. The relief obtained at this time was not decisive (the patient was not dead yet). The blood still showed no size; nevertheless, I was certain," says Dr. S., "that the disease was pneumonia, and anxiously pressed another bleeding, which was overruled. Another consulting physician was accordingly sent for; but, in consequence of a difference of opinion between the two, the patient was not again bled until the afternoon of the 2d of April, when 22 ounces were taken, with decided relief and syncope, (fainting, I should think so). After this there was a suspension of 'hostilities' until the 6th, when inflammation of the pericardium (the sack enclosing the heart) was present, the patient consequently must be bled very freely, for this was an important, or vital part, 50 ounces were accordingly taken and the patient was in a state bordering on syncope for several hours, (if he had not been stouter than eight-tenths of men he would have died then). Early in the morning, however, 12 ounces more were abstracted; and during the next 3 days the patient was in a state of torpor, (numbness, loss of motion, or power of motion). On the 11th, late in the evening there was a relapse, (change to consciousness, I suppose) for at 4 o'clock in the morning, 12 leaches were applied, and 16 ounces of blood taken from the arm. And still he lived, some how or other, until the 21st, when it was found necessary to take 16 ounces more—on the 22d, 30 ounces—on the 25th, 24 good leaches were applied to the side, (I feel thankful that the heart-rending cause is nearly through). At 8 o'clock on this day the patient was almost exanimate (almost destitute of life), the face corpse-like, and the pulse vermicular (worm-like in motion) and past enumeration.' The debility the whole of the next day was extreme. On the next morning the memory was gone and the mind imbecile. Was," says Beach, "ever a bullock more completely bled to death?"

Did not such crying evils call for reformation? And I feel grateful that a better day has dawned upon us; and that information of a practical character is being scattered among the *people* so that they

can, upon Common-Sense principles, take care of themselves, in at least, *nine-tenths* of the cases; and in the other case would send the Doctor "a kiting," if he resorted to such a murderous treatment.

And, in closing these introductory remarks, I would ask if it would be considered at all surprising that one, whose mother had taught him through his whole early life *never to touch calomel*, but to resort to the Common-Sense plans of treatment, should have a very great desire on his part to help overcome the *errors*, or evils, as heretofore, described, and to spread such information as would help the *people* to get along without continuing such abuses. This was our own case exactly, and it was the teachings of this *practical nature* that educated my mind to this work, as naturally "as a duck takes to water"—a kind of *second nature*, as natural as life, *which has always made this work a pleasure, and not a burden*. If "Dr. Chase's Recipes; or, Information for Everybody" *has done any good*; and if "Dr. Chase's Family Physician, Farrier, Bee-Keeper, and Second Receipt Book" *shall do any good, I owe it, under God, to my excellent mother, who not only showed me how to do what Common-Sense dictated to be done; but also taught me to avoid what ought not to be done—specially, never to bleed or give calomel.*

DOSES OF MEDICINE FOR DIFFERENT AGES.

It must be plain to every one that children do not require such powerful medicine as adults, or old people, and therefore it is desirable to have some fixed method of determining or regulating the administration of Doses of medicine. Now we will suppose that the Dose for a full-grown person is one drachm, (60 grs.) then the following proportions will be suitable for the various ages given; keeping in view other circumstances, such as sex, temperament, habits, climate, state of *general health*, and "idiosyncrasy," the peculiar condition of any particular person:

Age.	Proportion.	Proportionate Dose.
7 weeks.....	one-fifteenth.....	or grains..... 4
7 months.....	one-twelfth.....	or grains..... 5
Under 2 years.....	one-eighth.....	or grains..... 7½
" 3 ".....	one-sixth.....	or grains..... 10
" 4 ".....	one-fourth.....	or grains..... 15
" 5 ".....	one-third.....	or scruple..... 1
" 14 ".....	one-half.....	or drachm..... 1½
" 20 ".....	two-fifths.....	or scruples..... 2
above 21 ".....	the full dose.....	or drachm..... 1
" 65 ".....	eleven-twelfths.....	or grains..... 55
" 70 ".....	five-sixths.....	or grains..... 50
" 85 ".....	two-thirds.....	or grains..... 40

ABBREVIATIONS USED IN THIS WORK.

Ess. stands for essence.	grs. stands for grains.
qt. " " quart.	scr. " " scruple or scruples.
pt. " " pint.	ex. " " salvy extract.
lb. " " pound	fl. ex. " " fluid "
oz. " " ounce.	bu. " " bushel.
dr. " " drachm.	doz. " " dozen.
drs. " " drachms	bbl. " " barrel.
gr. " " grain.	cwt. " " hundred.

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AND
SECOND RECEIPT BOOK.

ABORTION.—ABORTION, or what is more commonly called *miscarriage*, is the expulsion of the child from the womb before the seventh month, after which, before full time, it is called premature labor. It is more common at about the *second* or *third* menstrual period after pregnancy; but it may occur at any other time, more especially if brought on by accident, as blows, falls, over-exertion, frights, or great excitements of the mind, or from severe disease, etc. If it occur in early pregnancy, the ovum (the undeveloped child and membranes as a whole,) often comes away together; but if considerably developed or grown, the fetus, or child may be expelled first, and the placenta (after-birth) afterwards. If it occur at or after the seventh month, the child may live, and occasionally one has lived from the sixth.

Causes.—Besides the Causes, above named, as likely to bring on Abortion at other times than the menstrual periods, it is sometimes Caused by the abuse of spirituous liquors, excessive bleedings from wounds, frequent cohabitation, vomiting, harsh purgatives, coughing, sneezing, tight-lacing, jumping, rough motion in riding, extracting teeth, uterine irritability, vaccination, and it may arise from the manifestation in the child, of any hereditary disease from either of the parents, etc.; and I am sorry to add, that if one-fourth of the reports are true, now-a-days, it frequently occurs from design, by taking abortives—may the Lord have mercy upon all who so far forget their obligations to Him, and to their own health and their country, for but little can be done for them after powerful drugs have been given for such purposes; and, if they do live, nine-tenths of them will suffer untold misery as a consequence. And it is truly surprising that there should be so many men and women who look upon the idea of “getting rid” of their offspring by an Abortion, as a matter of no great wrong, notwithstanding that so far as I know, the laws of *all the States* make it murder, and make the penalty a penitentiary offense, and

make the physician and all assistants (with the knowledge of the fact) equally liable, and that very justly I think. I have been asked, by word or letter, more than a *hundred* times to aid in this nefarious work, as people suppose that there are drugs that will produce an Abortion as easily as a dose of physic may perform its set work without danger, or much inconvenience. This is not so, as from the nature of the object of the womb (to carry the child until, comparatively speaking, it is ripe before it will contract and throw it off) there is no medicine that will do it except with great danger, and great suffering, and probably in 8 of every 10 cases as fatal to the woman as to the child; and if it is not fatal to her, she need hardly ever expect to be free of suffering caused by the medicines used for such purposes. Then permit me to say, never think of such a thing, for even in a miscarriage brought on by accident, there is much more danger, and consequent after suffering, than there is in a regular child-birth at full time.

Symptoms.—The first Symptom to manifest the probability of an Abortion will be a hemorrhage, or flooding, and the hopes of relief will be somewhat in accordance with the amount of flooding in the case; and this arises, generally, from the separation of the placenta from its attachment to the womb, and according also to the amount of separation, and the length of time since pregnancy took place, will the flooding be little or much, and, as above stated, be the difficulty of arresting the Abortion. There will also be a feeling of uneasiness or weariness, back-ache, bearing down pains, and if pregnancy has considerably advanced, finally labor-pains, and a greater or less discharge of bright red, or arterial blood.

Treatment.—As soon as the flooding or pains would seem to indicate that an Abortion may be expected, the woman should take the bed and keep the horizontal or lying-down position, and if there is any considerable accumulation of feces (excrement in the bowels from costiveness, etc.) it will be well to give a gentle cathartic, as citrate of magnesia, cream of tartar and sulphur, etc., and remain as quiet as possible, keeping cool, but not cold, and using a light diet that will have a tendency to aid the cathartic medicine and keep the bowels cool, and if the bowels are very costive it will be well to aid the movement by an injection of pretty strong warm soap-suds, $\frac{1}{2}$ pint or 3 gills, and this will be especially valuable if there has been habitual costiveness; or, second, mucilage of slippery-elm and milk, of each, 1 gill; sweet-oil, or goose-oil, or hens-oil, and molasses, of each, 1 table-spoonful; and saleratus, $\frac{1}{2}$ tea-spoonful; all made warm, and injected at one time, and these gentle means must be pursued until the bowels are opened. But if there is *considerable* flooding and *pain*, the probability is that an Abortion may not be prevented, yet, what can be done must not be neglected—let cloths wrung out of cold water be laid upon the lower bowels, over the region of the womb, and they may also be introduced into the vaginal orifice as high up as practical to prevent, mechanically, the flow, and also to aid the contraction of the blood-vessels of the womb; and it may also be proper when there is considerable flooding to wet these cloths for introducing into the vagina, in rather strong alum water, and change them occasionally, but the use of cold should not be carried to the extent of causing shivering and continued chilliness beyond a moment or two on their first application. In case the cold produces this unpleasant chilliness,

change to warm applications as a fomentation of *hops*, or any other of the bitter herbs that may be on hand, as *wormwood*, *tansy*, etc. And at the same time, take half a dose of the *sweating or diaphoretic powders* combined with the cayenne as directed under that article, and repeat, once or twice as necessary, and if the pain is *severe*, repeat in 30 minutes at first, then in an hour, and while this is being done, if the pain is not too great to allow it, let the patients' feet be put into hot water for 15 to 20 minutes to aid the establishment of perspiration, and if the pain is too considerable to allow the feet to hang over the side of the bed for this purpose, put a hot brick or stone wrapped in cloths to the feet, or a bottle or two of hot water to the feet for the same purpose as the conveniences at hand may allow. And if the pain and flooding increase, apply a mustard poultice to the lower part of the back as long as it can be borne without blistering. And if the flooding is still continued, give 15 or 20 drops of elixir of vitriol (kept by druggists,) in half of a small glass of water, rinsing the mouth to remove the acid from the teeth, and repeat this in 2 or 3 hours if needed. A strong tea of the common weed, known as *colt's tail* (fleabane, *erigeron Canadense*), or the oil of the same article, in doses of 4 to 6 drops dissolved in a little alcohol, and given in a little sweetened water, or *blackberry root tea* may be used, or *beth root tea*. If the oil is used, it may be repeated in from 20 minutes to 4 hours, according to the severity of the hemorrhage or flooding, and if any of these articles cannot be obtained *alum whey* or *wine whey* may be given in moderate quantities. This is made by bringing sweet milk to a boil, then pouring in wine or powdered alum, sufficient to curdle and clear it, and letting it settle without stirring it after it is curdled, and pouring off the clear liquid and made palatable by the use of boiling water and white sugar; but in these hemorrhages, use as little water as you can, as it is the astringent action that is desired. If these means fail to check the hemorrhage, and the waters are broken, then the Treatment will be the same as in *natural labor*. The reason why flooding is so considerable in Abortion is this, the womb does not contract readily, only at "full term," to close up the mouths of vessels that are left open by the separation of the placenta from the side of the womb, from which it and the child draws all their support during the full time of uterine growth, and herein arises one of the great dangers to the woman, of an attempt to produce an Abortion. And were it not from the fact of this danger in producing an Abortion for the wicked purpose of avoiding an exposure, by the unmarried of their sin, and of avoiding the labor and care of raising children by the married, to accomplish which hundreds of them have written to me to aid them in such an undertaking, not seeming to realize that it is not only a sin against God, but against the laws, and that no honorable physician will attempt under any circumstances to aid in producing an Abortion, except it be the *family physician*, or one called to the case, and he *must* in all cases call in another one for *counsel*, when, if upon this deliberate consultation upon examination, shall first determine that a fully matured child could not be borne without absolutely endangering the *life* of the mother, then it may be undertaken before fully maturity. Then it is to save the labor of answering hundreds more of letters upon this subject, and to let all know just what must be done, if honor is at all to be regarded, that this subject has been introduced. In case of one or more Abortions it will be found

difficult to pass the female over the same period in the next pregnancy; but to endeavor to do this, her general health must be promoted by nutritious diet, tonics, etc., and an avoidance, as far as possible, of all pre-disposing (helping) causes.

ABSCESS, OR SUPPURATION.—The collection of matter (pus) in any part of the body is called an Abscess, or Suppuration. They generally come to a head, or point, externally, but occasionally break, or arise internally. Whatever tends to obstruct the free circulation of the blood through the part, may cause Abscess. The symptoms are inflammation, swelling, and pain, in the parts. The female breast, at the time of child-birth, are quite often afflicted with this difficulty.

Treatment.—The first object on the manifestation of any of the above symptoms should be to scatter it, or prevent its going on to suppuration; and the first thing to do is to have the husband, or nurse, to draw out all the milk, at least 3 times daily, giving as active a cathartic as the condition of the woman will allow; and each time after the milk has been drawn, the breast should have a good stimulating liniment rubbed into it for a minute or two, to stimulate the gland to a healthy action; and then apply the discutient ointment freely, each time, after the liniment. Professor King, of Cincinnati, Ohio, informs us in his American Obstetrics, that for 30 years he has pursued, successfully, a similar course, using the *cajuput liniment*, made as follows:

"Oils of cajuput, sassafras, and olive, equal parts of each, and camphor, by weight, equal in amount." Mix, and use as above; and for the ointment, he uses a *soap ointment*, made as follows:

"Castile soap finely shaved, 3 ozs.; bees-wax, 1 oz.; nice lard, 2 ozs.; Jamaica spirits (rum), 3 fluid oz.; camphor gum, 3 drs.

"Dissolve the camphor in the spirits, and having melted all of the other articles together and removed them from the fire, stir them until cool; then add the spirits and continue to stir until cold, and box, for use." It is to be applied by cutting a piece of linen the shape of the breast, with a suitable sized hole for the nipple, to allow the child to nurse, then warm the ointment to allow of its being spread upon the cloth, and apply as warm as it can be borne; and every 4 to 6 hours remove it and apply the liniment and warm and re-apply as before—renewing the ointment upon the cloth every morning only, keeping the woman quietly in bed, and supporting the breast by bandage, if needed; and the *diaphoretic powder* may be used to keep down pain and nervousness, if required. Prof. King says that this ointment and liniment "has been used with success in every case where it was applied at an early stage, or previous to suppuration; it removes all pain and swelling in from 12 to 36 hours," and that he has "frequently found it efficacious in cases where the patient had suffered severely for 24 hours, and when I had every reason to believe that the suppurative stage had actually commenced." He used it with constant success for 14 years before he made it known to the profession. But in cases where for want of proper attention in time, suppuration has progressed considerably, and appears to be nearing the surface which will be known by sharp shooting pains, shivering, restlessness, etc., and by what is called *fluctuation*, (i. e., by a motion that would appear by pressing upon a sack containing fluid, moving under the pressure of the fingers then come back to its place again,) it will be best to have it lanced, to let out the matter; then make a tent with a piece of old

linen of sufficient size and length, pointed-like, at one end, and place it in the opening so that the outer surface shall not heal up until it heals from the bottom. In cases of extensive suppurations, the patient's strength must be sustained by nourishing diet, beef-tea, best port wine containing Peruvian bark, etc., as a tonic. What is valuable as a Treatment of Abscess of the breast, will be applicable to other parts as well.

ABRASION, OR BRUISE.—An Abrasion may be caused by a glancing blow which merely removes the outer, or scarf-skin, or it may be caused by chafing one part against another, in which case an application of any of the preparations for *chaps*, etc., will be all that is necessary, except to avoid the Cause as far as may be done; but when it comes by a more direct blow, *bruising* considerably, as by a blow of a hammer upon the finger, or nail, or a horse stepping upon the foot, etc., the best remedy that I have ever found, is to put the bruised part, as soon as possible, into cold water, notwithstanding it will cause an increase of pain, and keep it in for 5 to 10 minutes, then take it out and wipe off the water, and put on, freely, any good liniment, for the same length of time, then, after a few minutes, again to the water, repeating also the liniment; then 3 or 4 hours after, do the same again, for a few times during the first day; and for a few days thereafter, use the liniment only, 3 or 4 times daily. I have saved toe and finger nails in this way, I have no doubt, that would have been lost without it, besides saving the pain and inconvenience attending their loss.

AGUE.—For the Cause and Treatment of Ague, see **INTERMITTENT FEVER.**

ANATOMY.—The word Anatomy comes from Greek words which signify to cut up; but the general understanding of the word is that it refers to the skeleton, or *frame-work* that supports, and gives outline or dimensions to the system, in giving attachment to muscles, tendons or cartilage, etc., as well as to protect the brain and internal organs, to a very considerable extent, at least; while Physiology explains the *functions* or particular action of each of the different organs or parts of the system, and Hygiene treats of or explains how to preserve or promote healthy action; all of which I deem to be of the utmost importance for every human being to know; and I claim that these branches should be taught in every public school in the land; but as this has not been the case, in days gone by, I shall introduce just sufficient *illustrations* upon these subjects to enable those who have not had opportunities of acquiring such knowledge, to understand the explanations necessarily found in this Work.

The human system is composed of six kinds of material,—bone, cartilage, fiber, muscle, nerve, and fat, called by Anatomists *tissue*, meaning a kind of weaving together of the minutest parts, or elements of the organs of the body, as bony tissue, cartilagenous tissue, fibrous tissue, muscular tissue, nervous tissue, and adipose tissue, (from the Latin *adeps*, animal fat), or fatty tissue. These tissues which go to make up the animal part of the human system, are constantly wearing out and being re-placed by new tissue, or matter derived from the food, drink, etc., received into the body; and the worn-out matter is as constantly being eliminated, or carried out of the system under the name of *excretions*, by the skin, kidneys, and intestines, making a complete change of the whole material of our bodies, it is claimed by

Anatomists, as often as once in every seven years. Be this as it may, in regard to our bodies, the *mind* will never wear out, but it is the responsible part of man, and by it, we must *stand or fall* before the Wisdom of our Almighty Creator, Who, I fully believe, will hold us to a strict account, according to our *knowledge*, provided we do not neglect any opportunity of obtaining "knowledge," and if we do neglect our opportunities, we will also hold us to the same strict account for our neglect.

But, to return to the consideration of Anatomy, there is no doubt with any Scientific man, of the fact that our bodies do wear out and are undergoing this constant change; and, consequently, it is of the greatest importance that this *effete*, (worn-out) matter should be carried out of the system as soon as possible after it has accomplished its work, or in other words, is dead, for all dead animal matter tends to decay, and will poison the blood and thereby injure the health if it is not carried out at once. This shows the importance of a *clean and healthy skin*, and a healthy and natural condition of the *kidneys and intestines*,—points of *absolute* importance to the enjoyment of good health; then, if we are held accountable for our *neglects*, we must not neglect our duties to our body, any more than to the mind.

Bones.—Bones are made up of both animal and earthy elements, or matter—about one-third of the first to two-thirds of the latter. The animal matter is proportionally greatest in youth, the Bones being then tough and strong, and heal more readily if broken; while in old age, the earthy matter is greater, making them more brittle, and requiring a longer time, and more care to heal if broken. Healthy Bone contains cartilage, blood-vessels, phosphate of lime, carbonate of lime, fluato of lime, phosphate of magnesia, and soda, or chloride of sodium, which, to speak plainly, is common salt. There are 246 Bones in the adult or full grown person, divided, or described as *long, flat, and irregular*, and in their natural position, the flesh having been removed, attached by their natural ligaments, tendons, etc., is called a *natural skeleton*; but if these natural attachments are removed and they are put together with *wire*, as seen in the offices of most medical men, is called an *artificial skeleton*. For a more particular description, names, etc., see FIG. 1.

The Skeleton is divided into three parts, *head, trunk, and extremities*; the head is again divided into *cranium*, the back and upper part, and the *face*; the extremities into *upper and lower*, or arms and legs—oh! excuse me, *arms and limbs*. If there is any more delicacy in saying *leg* than *arm*, I have yet to learn the fact; it is only a *false* delicacy that exacts it.

The Bones are covered with a firm fibrous membrane called *periosteum*. The Bones of infants, before birth, are first jelly-like, then cartilaginous; and after birth, still soft and yielding. The formation of Bone is very peculiar. The blood and milk carry the material for its formation; and the first thing noticed in the formation of Bony tissue is the appearance of a jelly-like mass, in the shape of the Bone to be formed, then a blood-vessel appears in the center of the jelly, and small particles, or the first elements of Bone are deposited, which slowly proceeds, and at the same time, other vessels take up and carry away, or use the jelly in the formation.

The Bones are situated about as follows: 60 in the Head, counting 32 teeth; the *cranium*, or cavity for the brain being made up by

the joining together of 8 of the flat Bones; the face which includes the orbits, or cavities of the eyes, nose, and mouth,—14 in number; and 6 in the ears, 3 in each.

The *trunk* contains 52 Bones, 26 of which go to make up the spinal column, called *vertebra*, (from *verte* to turn, as the upper part of the

FIG. 1.

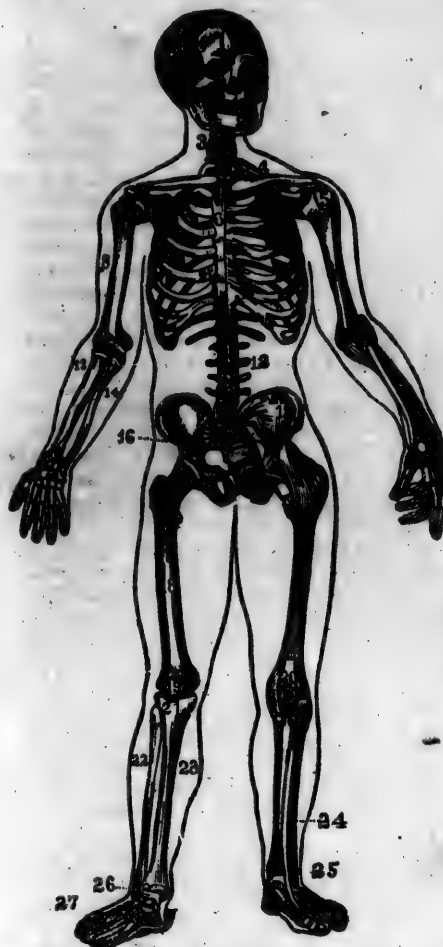


FIG. 1. 1, represents the skull; 2, the lower jaw; 3, the *vertebra* of the neck; 4, the breast bone; 5, 11, and 17, the ligaments of the shoulder, elbow, and hip joints; 6, the breast bone; 7, the shoulder joints; 8, the *humerus*, or upper arm; 9, the ribs; 10, the elbow joint; 12, spinal column; 13, the *radius*, or large bone of the forearm; 14, the *ulna*, or small bone of the forearm; 15, the hip bone; 16, the lower part of the spinal column; 18, the *femur*, or thigh bone; 19, the knee cap, or *patella*; 20, the ligaments of the knee cap; 21, the knee joint; 22, 23, and 24, the *tibia* and *fibula*, or bones of the lower part of the legs, corresponding with the two bones of the forearm; 25, 26, and 27, the ligaments of the ankles, feet, etc.

THE SKELETON AND OUTLINE OF THE BODY.

body can be turned considerably without moving the feet) the plural being *vertebra*, the lower portion of the column takes the name of *sacrum* and *coccyx*, (i. e. the sacred Bone, and the cuckoo's bill, or beak, from the fact that the lower extremity of the column resembles a cuckoo's bill). The 7 upper *vertebra* are called cervical, from

the Latin *cervix*, the neck; the next 12, dorsal, from *dorsum*, the back; and 5 are called lumbar, from *lumbus*, the loins; 24 ribs; 1 *sternum*, (from a Greek word signifying the breast, or chest); 1 *os hyoides*, or hyoid bone, (the name also comes from the Greek and signifies an arch, or U shaped Bone). It is situated at the base or back part of the tongue, the open part backward, giving support to the tongue and *trachea*, or wind-pipe. The *sacrum* forms an attachment upon each side with one of the *os innominata*, nameless Bone, from the Latin *os*, a Bone, and *innominata*, nameless), commonly called the hip Bones, which form a hollow, or dish like cavity, by uniting in front, making quite a prominence at the lower part of the bowels, called the pubis (meaning puffed out, or fat, and also having reference to puberty, i. e., to the growth of manhood, etc. This dish-shaped cavity contains the bladder, womb, etc., and also supports the intestines. Upon, or in the outer and under side of these Bones there is a cup-shaped cavity called the *acetabulum*, (the Latin for a little cup or saucer-shaped dish for holding vinegar, from *acetum*, vinegar). The *acetabulum* receives the head of the *femur*, the thigh, hence, it is called the thigh bone.

The upper extremities contain, each 32 Bones—the shoulder-blade, and collar bones, 1 in the upper arm, the *humerus*, (relating to or belonging to the shoulder, same as *femur* relates to the thigh; the lower or forearm has 2 Bones, the outer one is called the *radius*, (meaning a staff, rod, or spoke of a wheel), and the *ulna* (having reference to the elbow) being the inner and smaller of the two. The wrists contain 8 Bones each, called carpal Bones, (from *carpus*, the wrist). The hands contain 19 each, called metacarpal, (from Greek words which signify beyond and the wrist) and also the fingers which include the thumbs, the Bones of which are called *phalanges*, which signified a square body of soldiers—and hence applied to the Bones of the hands and feet in rows, etc.

The lower extremities contain 31 Bones each; then there are 8 sesamoid, or seed-like Bones, the knee-pan (called the *patella*, from its resemblance to a small dish), is the largest of this class of Bones. The *femur*, as above mentioned, relates to the thigh; then, the lower part of the leg, like the forearm, has two Bones, the larger one called the *tibia*, or shin-bone (from its resemblance to a pipe, or flute, which was anciently made of Bone, and the smaller one called the *fibula*, (meaning to fasten two things together), it being fastened to the *tibia*; then the heel Bone, or *calcis*, (probably from the Latin *calx*, lime stone, or the Greek word for stone, as it resembles the shape of a stone somewhat), which connects with the *astragalus* (the Greek for ankle, or *tarsus*, the Latin for ankle, the same as *carpus*, for the wrist). The *astragalus* also connects with the *tibia*, also with the *calcis*, or heel-bone, and with the *metatarsal*, or bones beyond the *tarsus*, or ankle; then comes the *phalanges*, or rows of Bones in the feet and toes, making up the sum total, as above named, of 246 Bones in the human body.

The connection of these Bones together by Fibrous Ligaments, or Cartilage and Tendons, make what are called *joints*, the *Periosteum*, or membrane covering the Bones, in the Joints, takes the name of synovial membranes which furnish the *synovial fluid*, or joint water as it is commonly called. This fluid keeps the joints moist and allows their movements upon each other without injury to the Bones.

The Membranes also cover, or line all of the cavities of the

body, and invert or cover all of the internal organs, taking the additional names of *Serous Mucous*, and *Cellular*. The *first* covers the brain, forms the lining of the abdomen and chest, covers the lungs, heart, stomach and intestines, and in fact, all of the organs of these cavities. This Membrane furnishes a *serum*, or fluid which moistens the surfaces and enables them to move upon each other with ease and comfort; but in case of inflammation is liable to adhere, or grow together. If this Membrane furnishes more fluid than is necessary, by a diseased condition of the absorbents of the system, it accumulates in the cavities and is called dropsy. The *second* lines the nostrils, mouth, throat, air-passages to the lungs, stomach, and intestines, in the last two of which it is formed into extra folds by which means the surface is largely increased to prevent the too quick passage of the food through them, giving time for digestion and absorption of the nutritious parts of the food to build up and strengthen the system. In health the color of this Membrane is a pink, or pale red, but when inflamed, of a deep red. This Membrane furnishes a slimy and tenacious fluid called *mucus*, from words which indicate a cloudiness, as seen in the mucus discharges in diarrhea. In a very weakened condition of the system this Membrane allows the blood to exude, or pass out through it, called *hemorrhage*, or bleeding, but it never adheres, does not grow together no matter how severe the inflammation may be, nor how weakened the system. The *last*, or *Cellular*, or cell-like, Membrane forms a kind of net-work between the various muscles of the body, and also between the muscles and the skin. It also throws out a fluid, which in some conditions of the system, is not absorbed; constituting or establishing cell, or cellular dropsy, the limbs becoming very much enlarged.

Muscles.—The Muscles are the parts called flesh, and in animals of which we eat the flesh, it is called the *lean meat*. To look at a Muscle, as a whole, it would be taken as a uniform mass of flesh; but upon a closer examination they are found to be composed of bundles of fibres, each fibre being covered with a fine Membrane, and each bundle of fibres also covered or bound up in the same kind of Membrane, and finally the Muscle, as a whole, is also covered with the same, giving a greater strength to the Muscles. As animals become fat, the fatty portions are deposited between, or around the Muscles, in the cellular tissue. They are generally found in pairs, *i. e.*, one upon one side of the body and one upon the opposite side, bearing the same name. They are also placed in layers, one above another, by which means strength and beauty of form are blended together in harmony and usefulness. See FIGURES 2 and 3.

There are over 500 Muscles in the human body. They have a firm attachment to the bones, and in the limbs, mostly by what are called *tendons*, or the part having no flesh—the fibrous, or part having the most strength—by which means, the various motions of the body are brought about, by the simple act of the *mind*, or *will*, as it is more commonly called. This class of Muscles are called *voluntary*, *i. e.*, the mind wills to do something, and this class of Muscles voluntarily carries out the determination of the mind. But the Muscles of the heart, lungs, stomach, and intestines, etc., act *without* any determination of our will, no matter whether asleep or awake, the action of these muscles goes on constantly, whether we *will*, or *not*, and hence, are called *involuntary*, showing the great wisdom of our Creator who would not

put our lives in jeopardy, from our sleep, forgetfulness, or neglect.

FIG. 2.



CPLUMB, SC.

FIG. 2. Figures 1 and 2, represent the muscles of the upper part and side of the head; 3, of the eye; 4, of the mouth; 5, of the side of the face, and 6, of the side of the neck; 7, represents the breast and collar bones, to which the strong muscles of the breast and shoulder, 8 and 9 are attached; 10 and 11, the muscles of the upper arm, passing under a band like a pulley to bend the forearm; 12, 13, 14, 15 and 16, the muscles of the forearms, tapering off very beautifully into the tendons to bend the wrists and fingers; 17, the annular ligament, or band that holds the tendons of the arm firmly to the wrist; 18, is a strong tendinous muscle, giving attachment to the side muscle 19; while 20 interlocks among the others; 21 to 25, and 28 to 32 show the various muscles of the lower extremities; and 27 shows the band-like ligaments of the ankles.

MUSCLES OF ONE SIDE, LIMBS, ETC.

Of course, the Muscles all have names, and some of them very long ones; but as the names of the Muscles are not as frequently used as that of the bones; and as the names are all in Latin, and many of them very long, I have not deemed it best to enter into a full description of them; but at the same time I will give one or two as samples, adding that any one who sees fit to take up the study, in Schools, or in Families, will do well to obtain Cutter's New Analytic Anatomy,

FIG. 3.



FIG. 3. The figures on the right side of Fig. 3, represent the first layer of Muscles; and those on the left, the second, interlocking with some of the third layer.

MUSCLES OF THE BACK.

Physiology and Hygiene, published in 1872, by J. B. Lippincott & Co. of Philadelphia, Pa. He has taken a very practical way, putting the names of the bones and muscles right upon them, making it very easy to learn. It will pay for every family to obtain that Work; and it will more than "pay" if every member of every family will study it.

The names of the Muscles generally indicate their use, for instance the *levator labii superioris aequalis nasi* (*levator* to lift or raise; *labii*, the lip; *superioris*, the superior, or upper; *aequalis*, the side, and *nasi*, the

nose; to elevate the upper lip and side of the nose), which goes to show that the name was intended to represent the use of the Muscles. *Depressor labii inferioris* (*depressor*, to depress or pull down; *labii*, the lip; *inferioris*, inferior, or under; to depress the lower lip, etc., etc. To follow this out, would be very interesting; but, not so practical as this work was intended to be. Let all who desire to follow up the study of Anatomy, address and obtain the book above referred to. The foregoing cuts merely show a few of the Muscles as they appear by dissection.

It is a well-known fact that a proper, amount of exercise gives strength to the Muscles, and greatly helps their development, and adds to the general health of the system; but, it is as fully known also, that rest is of the same importance, after a due amount of exercise. Horsemen, or those who well understand the needs of a horse, will have the groom to rub his legs well, after the fatigues of the day; it is of the same importance to a person. Friction is used to alleviate cramping in the limbs; it is as good to prevent it, as to relieve it; and it does this by causing a more free and full circulation of blood in the skin, and in the Muscles. Those who can not, or who do not freely exercise, or labor through the day, would add very much to their vigor and strength by rubbing the surface of the whole system, with a coarse, dry towel, every night and morning when they do not take a bath, and at these times also, after the water has been wiped off. It is a pleasure, also, that but few would forego, after giving it a fair trial.

Circulation.—The passage of the blood through the system is called the Circulation; and it is by this means that the system is built up in the first place, and afterwards kept in health and strength by the continued taking up and carrying off of worn-out matter, and the renewal by the deposit of new material by means of the Circulation, which we hope to make plain through the aid of the following cuts, and explanations.

The Heart is the organ which starts the blood on its course, acting as a *force pump*, to push the blood out through the arteries; and as a *suction pump*, to draw it back through the veins.

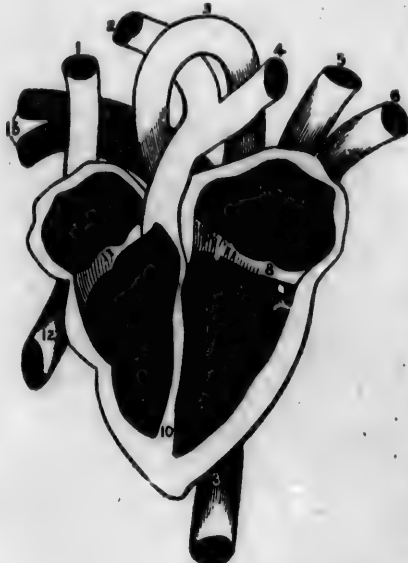
The Auricles receive the blood as it is returned from the various parts of the system, from which it is passed into the Ventricles, to be again sent out on its errand of supply to the system. The walls of the Auricles are not as thick as those of the Ventricles, as the Ventricles require more strength, especially the right one; for it sends the blood to the remotest parts of the body; the left one only to the lungs, and hence, is not as strong as the other.

Harvey has received the full credit of discovering the circulation of the blood, and the consequent usefulness of the Heart; but it would appear from the following quotation that even Plato who lived hundreds of years before Harvey, had a very philosophical idea of the uses of the Heart and blood-vessels. He says: "It is the center, or knot of the blood-vessels; the spring, or fountain of the blood, which is carried impetuously round; the blood is the food of the flesh; and for the purposes of nourishment, the body is laid out in canals, like those which are drawn through gardens that the blood may be conveyed, as from a fountain, to every part of the body."

Arteries.—The Arteries are strong, and yet quite elastic, membranous pipes, or tubes, composed of three coats; the outer being cel-

ular, the middle muscular, and the inner serous, being very smooth to allow the free passage of the blood to the remotest parts of the system.

FIG. 4.



THE STRUCTURE OF THE HEART.

Figure 5, throws off several branches to the head and upper extremities, and the descending aorta also branches off constantly; and at the lower part of the abdomen, separates into two equal branches, one to each lower extremity, each of which is constantly branching off until at the extremities of the toes, and surface, they become fine capillary, or hair-like vessels, meeting with the same class of fine capillary veins, which returns the blood to the Heart, to be again sent out, through its endless rounds, as long as life shall last. The branching off of the arteries, and in of the veins, will be better understood by looking at Figures 6 and 7; and Figure 5 will give a fair view of the Heart in its natural position, showing also the branches from the aorta, (this word comes from Greek words which signify *from* and *to lift*, lifting, then, or rising from the Heart).

The muscular, or middle coat of the Arteries passes around instead of lengthwise; and from the elasticity, above mentioned, allows the enlargement or swell-like movement as the blood is sent through them, giving that feeling to the finger when held upon an Artery, called "the pulse."

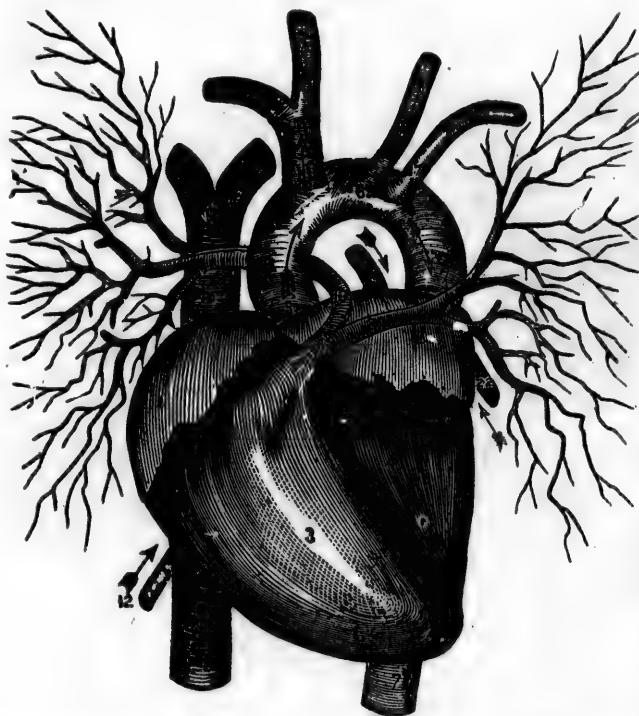
The Arteries are mostly deep-seated, no doubt, by the considerate wisdom of the Creator for the purpose of avoiding injury from accident; for the cutting off of an Artery is more dangerous than the cutting of a vein, as the pressure, or force upon the blood in an Artery is greater than that in the veins. When an Artery is cut, the blood is thrown in jets or spurts, at each beat of the heart, and always from the side of the wound next to the heart; while from a wounded vein the blood oozes out steadily and constantly, and always from the side of the wound farthest from the heart.

In case of the cutting off of any large bloodvessel, not a moment

FIG. 4. The Heart is composed of very strong muscular fibre, and has four cavities, being divided as shown in Figure 4, by the partition walls, represented by the figures 8, 10, and 13, which have openings through them supplied with valves to prevent the return of the blood as it is being forced on its way; 7, 9, 11, and 14, represent the cavities—7, being the left auricle; 9, the left ventricle; 11, the right ventricle; and 14, the right auricle (auricle, signifying ear, hence in animals we speak of the deaf-ear of the heart, as it is not supposed to hear, but simply resembles the shape of the ear; while ventricle, a sack-shaped cavity, like the stomach, or abdomen, from *venter*, the belly). Figure 1, represents the vena cava superior, or upper vein that returns the blood to the Heart, (vena meaning vein, cava, from *cavus*, a hollow, and *superior*, upper—literally the upper hollow vein); 12, the lower vena cava, or vein that returns the blood from the lower part of the body and lower extremities. These two veins pour the blood into the right auricle; 2, and 4, the pulmonary arteries, which carry the blood to the lungs to be purified by coming in contact with the air in the air-cells of the lungs, after which it is returned by the pulmonary veins 15, 5, and 6, to the left auricle of the Heart, filling the office of arteries in carrying the purified blood. From the left auricle the blood passes into the left ventricle, and thence to all parts of the body, through the aorta 3, 3; the arch, above, as will be seen in

is to be lost. Put the finger or thumb, *immediately* upon it, in such a way as to *stop the flow of blood*, until a physician, or some one can be got who can catch up the end of it and tie some stout white silk, or white linen thread around it, leaving the ends to hang out of the wound, then close the wound with stitches, if necessary.

Fig. 5.



THE HEART AND BLOOD VESSELS.

lower extremities, both emptying into the right auricle; and 12, returns the blood from the intestines, liver and spleen—the arrows indicating the way the blood flows; 13, *arteria innominata* (nameless artery) which divides into 14, the right carotid artery (carotid comes from Greek words signifying stupor, or heavy sleep, as it was believed that this condition was brought about by an increased flow of blood to the head) which carries the blood to the head, and 15, the right subclavian artery, which carries it to the right arm; 16, the left carotid; 17, the left subclavian, carrying the blood to the left arm; 18, is the pulmonary (this word comes from the Latin *pulmonis*, a lung,) artery, which arises from the right ventricle and divides into 19 and 20 to supply the lungs; 19, it will be seen, makes a beautiful curve under the arch of the aorta, passing to the right lung, and 20, to supply the left; 21 and 22 are the pulmonary veins which return the blood from the lungs to the left auricle of the Heart.

In these cases where an Artery, or a Vein is cut off and tied up, it would naturally be supposed that they ought to grow together again; but instead of this, the supply is carried by other vessels until a passage way is provided by the formation of a new vessel around

Fig. 5. 1, the right auricle; 2, the left auricle; 3, the right ventricle; 4, the left ventricle; 5, the aorta; 6, the arch of the aorta; 7, the descending aorta; 8, the right subclavian vein, (sub, under, clavian, clavicle, or shoulder-blade); 9, the left subclavian vein, the first returns the blood from the right arm and the latter from the left; these two unite and form the descending vena cava, which, in fact, returns all the blood from the head and upper extremities, while 11, the ascending vena cava returns it from the lower part of the body, and

the wound, to carry the blood in its natural course,—another of the wonders of Almighty wisdom and goodness.

The Arteries are enclosed in *cellular tissue*, the same as the muscles. They are also generally accompanied by a vein, and also by a nerve, all of which are bound together in a sheath of membrane the same as the muscles are. It will also be observed that, like the muscles, the Arteries, and also the veins, are found in *pairs*—one upon each

FIG. 6.

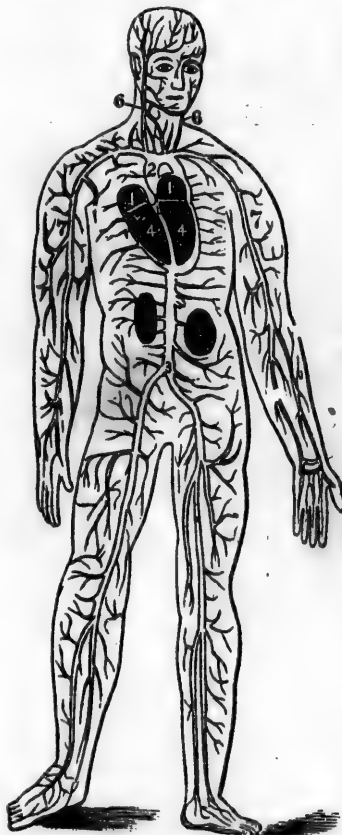


FIG. 6. 1, 1, Auricles of the heart; 2, and 3, the Aorta sending off its branches to the upper and lower extremities, kidneys and other internal organs; 4, 4, the ventricles; 6, 6, the carotid arteries, going to the sides of the neck, head, and face; 7, 7, the brachial, or arteries of the arms, (from *brachium*, an arm). The arteries leading to the kidneys, are called renal, (from *renus*, the kidneys). The left kidney lies a little lower than the right, as shown in the cut.

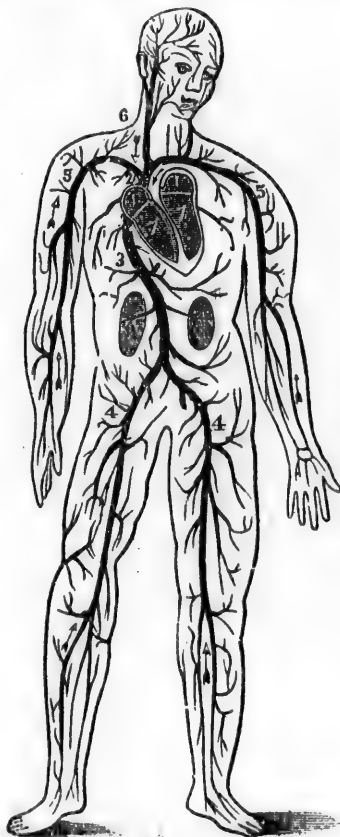
ARTERIAL SYSTEM.

side, taking the same name with the addition only of *right* or *left*, as the case may be. The Arteries are shown lighter in color, in the figures, or cuts, from the fact that Arterial blood is light colored, or bright red, while the *venous* blood, from its loss of oxygen, and from the impurities that it picks up in its course, becomes very dark, as represented in Fig. 7. The only exceptions to this rule is, that the pulmonary Arteries carry the impure blood to the lungs for purification, by receiving a new supply of oxygen; and the pulmonary veins

carry the purified blood back to the heart, to be again sent out through the Arteries.

Veins.—The Veins, of course, are tube-like, and are composed of three coats the same as the arteries; but the coats are not so thick and strong as they are in the arteries; as, before remarked, there is not the same force upon the Veins, but rather a *suction*, or drawing force

FIG. 7.



VEINOUS SYSTEM.

FIG. 7. 1, 1, Auricles of the heart; 7, 7, Ventricles; 2, 3, the descending and ascending vena cava, or large veins that empty the blood into the right auricle; 4, 4, the femoral, or large veins of the lower extremities (femur, the thigh bone, is derived, having reference to the thigh); 5, 5, the brachial, or veins of the arms; 6, 6, veins of the neck, the large ones are commonly called the jugulars, or jugular veins. There are two of these upon each side of the neck, one lying near the skin, and the other deep-seated. The word jugular comes, no doubt, from the Latin *jugulum*, the collar bone, having reference to the throat; hence, *jugulate*, to cut the throat, etc. The arrows indicate which way the blood flows.

from the auricles of the heart having been emptied into the ventricles, causing a kind of *vacuum*, to fill which, the blood flows back constantly and readily, although slower than it passes through the arteries. This is accounted for, however, in the fact that the Veins are considerable *larger* than the arteries, so that the slowness of motion is made up by the larger stream. The Veins are supplied with valves to prevent the blood from flowing backward. This, at first thought, would appear to us to be unnecessary; but, in case of accident, or cutting off of a Vein this *valve* arrangement prevents the blood from flowing

FIG. 8.

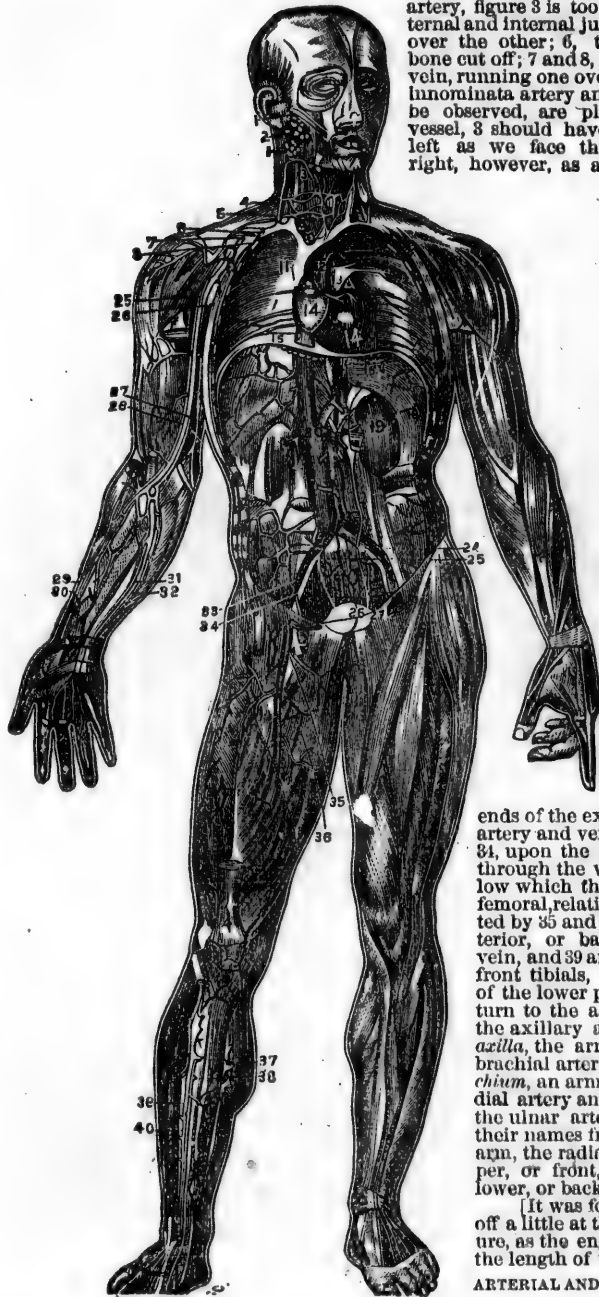
FIG. 8. 1, 2, 1, Parotid glands; 3, the carotid artery, figure 3 is too far over; 4, and 5, external and internal jugular veins, one laying over the other; 6, the clavicle, or collar bone cut off; 7 and 8, subclavian artery and vein, running one over the other; 9 and 10, innominate artery and vein, 9 and 3 ft. will be observed, are placed upon the same vessel, 3 should have been a little to the left as we face the cut, really to the right, however, as all cuts are described;

11, vena cava descendens, or descending vein—11, is really placed upon the lung but the line leads to the vein; 12, aorta; 13, pulmonary arteries, leading to the lungs; 14, 14, the heart; 15, the diaphragm, showing its upward arching; 16 and 18, small arteries and veins; 19, kidney; 20, vena cava ascendens, or ascending vein, the aorta lying along side; at this point the veins come in also from the kidneys, and the arteries to the kidneys leave the aorta, both of which are seen to divide below, to go to the lower extremities; 21, the cut edges of the walls of the abdomen; 24 and 25, as seen on the left side of the body, lead to the ureters or small pipes that carry the urine from the kidneys to the bladder—26—below; 27, the cut

ends of the external, or outer, iliac artery and vein, shown by 33 and 34, upon the opposite side, passing through the wall of the pelvis, below which they take the name of femoral, relating to the thigh, indicated by 35 and 36; 37 and 38, the posterior, or back tibial artery and vein, and 39 and 40, the anterior, or front tibials, or arteries and veins of the lower part of the leg. To return to the arm; 25 and 26, show the axillary artery and vein (from axilla, the arm-pit); 27 and 28, the brachial artery and vein (from brachium, an arm); 29 and 30, the radial artery and vein; and 31 and 32, the ulnar artery and vein, taking their names from the bones of the arm, the radial side being the upper, or front, and the ulnar, the lower, or back side.

[It was found necessary to cut off a little at the bottom of this figure, as the engraver had exceeded the length of the page.]

ARTERIAL AND VEINOUS CIRCULATION.



out, which is in the larger portion of the Veins, next the heart, and that which is afterward poured in from other branches that empty in between the wound and the heart. For, it will be remembered, that the Veins become larger and larger as they near the heart, like a river which is constantly receiving other rivers into it as it approaches the sea—its mouth. The heart is the *mouth* of the Veins.

The Veins differ also from the arteries in being arranged in two sets. One set, as before remarked, accompany the arteries; and, the other set runs near the skin, as seen on the back of the hands, having no arteries connected with them. The Veins coming from the stomach, spleen, pancreas, and intestines, have this peculiarity also, that instead of returning the blood directly to the heart, they unite into what is called the portal Vein—*vena porta*—which carries the blood through the liver, for a wise purpose, no doubt, but yet, the positive object has not been satisfactorily settled by Anatomists, (*porta*, in Latin signifies a gate, hence this is called the portal, or gate-way to the liver). This blood together with that coming from the hepatic artery, or liver artery (*hepaticus* being the Latin for liver), is then returned to the general circulation, or to the heart by the *hepatic veins*.

The Arterial and Venous circulation will be better understood by observing Fig. 8, the true positions being shown, the passage of the large vessels through the Diaphragm, and out through the walls of the pelvis, or pelvic region, and down the thigh, behind the muscles, shown also in the lower part of the limb again. The Heart and its relations to the Diaphragm will also be seen; also one of the Kidneys, Ureters, or pipes that carry the urine to the Bladder, etc. The front walls of the Chest and Abdomen having been cut through and removed, showing the ribs, as cut through, etc., etc.

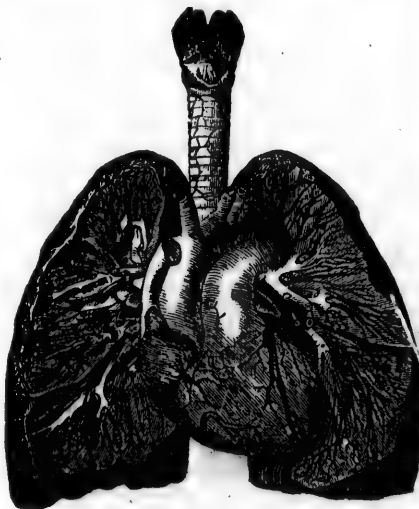
The left extremities, arm and leg, show the graceful form of the outer layer of muscles, swelling in the center, and diminishing in size toward the ends, by which the beauty of the form of the limbs, without loss of strength, is so admirably perfected. The band-like ligaments of the wrist and ankle are also shown.

The Capillaries, it has been before remarked, form the connecting links between the Veins and Arteries. Although they take their name from what signifies a *hair*, yet, they are so small, that to examine them by a microscope, the hair will appear *very large* as compared with the Capillaries—indeed they are so small that the finest needle's point cannot be pushed into the skin without injuring many of them, causing the blood to start at once. They are so small that, in inflammation, the very minutest particles of the blood, or the elements of supply for the system that are carried in the blood, clog up these Capillaries, causing such an accumulation as to produce more or less swelling, according to the extent, or severity of the cause of the inflammation.

The Lungs and Respiratory, or Breathing Apparatus.—The breathing apparatus begins properly with the *nose*, although many persons get into the habit, unconsciously and wrongfully, of breathing through the mouth. The next is the back part of the mouth, or throat, *technically* called the *pharynx*, (the Greek for the throat, also called the *fauces*); then the *trachea*, or wind-pipe, (coming from a Greek word signifying rough, or rugged, because it is formed by cartilaginous rings which hold it open for the passage of the air to the Lungs), the upper portion of which is called the *larynx*, (in which

portion are found the organs of voice, the name having reference to speaking, or a discourse); the trachea divides into *bronchial* tubes which lead into the Lungs, and continue to divide into very small tubes, upon which, cluster the air-cells of the Lungs, like grapes upon the stem, only they are ultimately so small that there are supposed to be 600,000,000 of them in the Lungs, (*bronchi* is the Greek word for wind-pipe, hence, bronchial, relating to that pipe, or the air passages), the division of which is fairly shown in Fig. 9.

FIG. 9.



TRACHEA, LUNGS AND HEART.

FIG. 9. This figure, or cut, makes a fair showing of the dividing up of the bronchial tubes, as they become less and less in size as they reach the outer portions of the lungs. The front portions were removed, in the drawing, to make this showing. The heart is also seen in its natural position, the point a little to the *left* of the center and the large and upper part of the heart, upon and a little to the *right* of the center, the same as they actually appear in the living, human system. The point of the heart, and lower side, or bottom of the lungs rest upon the *diaphragm*, or midriff, as it is called in other animals. *Diaphragm* is a Greek word signifying to partition or fence off by a wall; and, hence it is applied to this muscle which divides the chest, or upper part of the internal cavity, from the lower part, or from the abdomen. When the stomach and abdomen, or bowels are full, and the lungs *not* fully inflated with air, this dividing membrane or muscle is arched considerably upwards; but when the lungs are full of air, the diaphragm is forced down, and thus the *diaphragm*, *ribs*, and outer muscles of the *abdomen*, help to carry on breathing, or *respiration*. The central portion of the lungs where the bronchial tubes are large, is called the *root* of the

lungs. The front part of the lungs, which are represented as having been removed, are thin, and when in position fold over upon the heart, and nearly cover it from view, when the chest is laid open. I am indebted to the kindness of Prof. Scudder, of Cincinnati, for this engraving, also for the one upon the Skin, and upon Bandaging; all the others were engraved expressly for this Work.

The Lungs conform to the shape of the cavity of the chest, and with the heart, filling the whole cavity, each one being cone-like in shape at the upper part, and dish-shaped, upward in the center of the bottom portion, as before mentioned, from the upward pressure of the liver and stomach, which are pressed upward against the under side of the diaphragm by the fullness of the abdomen, giving the under side of the diaphragm much the shape of a washbowl inverted, or turned bottom upward; and it is the rising up and the descending of this arch of the diaphragm, that enlarges the cavity of the chest, and allows the expansion of the Lungs, as their lower surface, adhering to the diaphragm, descends with it; and as the outer surface of the Lungs adhere to the side walls of the chest, the air-cells are greatly expanded thereby. This may be readily understood by folding a piece of tough paper, several thicknesses, then cutting slits all around its edges, then unfolding it and drawing it out, by taking hold of its outer edges. The right and left Lung are separated from each other, up and down, by a dividing membrane, called the *mediastinum* (from

the Latin *medius*, the middle,) which is stretched like a curtain, from the center of the back-bone to the center of the breast-bone, joining, however, with the *pericardium*, or membranous sack that encloses the heart (from Greek words that mean about, and the heart), thus partitioning the chest into *two* cavities, and why may we not say *three*? For the division, or sack containing the heart is as much a cavity, as those containing the Lungs. The blood, in passing through the system becomes loaded with carbonic acid, or gas, which is poisonous to the system; but the membranous walls of the air-cells of the Lungs are so very thin that when the blood enters the Lungs, this gas passes out through the membrane freely, and the oxygen of the air passes in, also, by which continued process, the purification of the blood is kept up.

The Lungs are completely covered, or bound together by the *serous* membrane, called the *pleura* (the Greek word for ribs, and also the membrane that lines the chest; and as *costa* is the Latin for rib, they are mixed up somewhat in this description), which is also doubled over upon the *costals*, or ribs, taking the name here of *pleura costalis*, and upon the Lungs, the name of *pleura pulmonalis*. The *pleura* is also reflected upon or covers the upper surface of the diaphragm; and this membrane furnishes a sufficient amount of serum, or fluid to keep the surface moist, which causes the two surfaces also to adhere, or stick together, as a wet piece of leather will stick to a perfectly smooth stone, even to raise a considerable weight, if the string, with which the lifting is done, is properly attached to the center. This power of adhesion of the walls of the chest to the membrane covering the Lungs and to the upper side of the diaphragm is what causes the expansion of the air-cells as the breath is drawn in; for, at this time the diaphragm contracts, drawing the bottom of the Lungs down with it by this power of adhesion, permitting the *air* to enter the enlarging cells, simply by the pressure of its own weight—15 lbs. to the square inch—as the Lungs have no power of themselves to contract, or expand. The left Lung is not quite as large as the right, as the heart takes up more room upon the left side than upon the right.

The Lungs are divided into *lobes* or folds, the left one being the smaller, into *two*; and the right, being the larger, into *three* lobes, or divisions, which may be noticed in the lights, as they are called in our domestic animals. The drawing in of the breath is called *inspiration*, and the outward passage is called *expiration*.

The Lungs, after breath has been once drawn in, are always light and spongy, as a considerable portion of the air remains in them; at least, sufficient to cause them to float in water, after death; which fact has been so well established that it has determined many cases of the murder of infants, which it had been claimed were still-born; for, if the child has not breathed, the Lungs are solid, and sink in water. The average respirations per minute are about 18; amounting, in bulk, or quantity of air, to an average of 25-cubic, or square inches of air to each breathing; and in 24 hours to over 3,000 gallons, which it is supposed carries into the system from one-half to three-fourths of a pound of carbon, from which, with its combination with the oxygen of the air breathed, after the nitrogen has been taken up from it in the system, produces, or aids in producing, the *carbonic acid*, which is so poisonous, or injurious to the health, when not taken up and carried out by full and vigorous respiration. But, notwithstanding that

in ordinary breathing there is only about 25 cubic inches of air drawn in at each breath, yet, the elasticity, and sponginess of the Lungs is so great that their capacity may be increased, by an effort, or forced breathing, to more than 200 cubic inches; and there are many writers who consider that this forced breathing, for a minute or two at a time, a few times each day, would materially improve the vigor of the Lungs, and the general health, and to a certain degree, insure against consumption.

Admitting the foregoing statements to be founded in fact, which but few will doubt, the great importance of large school-rooms, public-halls, and bedrooms will be easily understood, unless great care is taken for ample ventilation, which but few of our older buildings have been supplied with—it should be remedied by making such provision at once.

Carpenter, a careful Physiologist, has drawn the following conclusions from the foregoing facts, and they are worthy of the fullest consideration. He says:

"In all climates, and under all conditions of life, the purity of the atmosphere, habitually respired, is essential to that power of resisting disease, which, even more than the habitual state of health, is a measure of real vigor of the system; for, owing to the extraordinary capacity which the human body possesses, of accommodating itself to circumstances, it not unfrequently happens that individuals continue, for years, to breath a most unwholesome atmosphere, without apparently suffering from it; and thus, when they at last succumb," (sink under, or give out under) "to some epidemic disease," (a disease common to, or affecting many of the people, at one time, in a community, or neighborhood, the word epidemic coming from a Greek word which signifies *among the people*), "their death is attributed solely to the disease—the previous preparation of their bodies for the reception and development of the zymotic poison" (a poison that works through, or by fermentation, as in contagious diseases), "being altogether overlooked. It is impossible, however, for any one who carefully examines the evidence, to hesitate for a moment in the conclusion, that the fatality of epidemics is almost invariably in precise proportion to the degree in which an impure atmosphere has been habitually respired." He that gives heed to good counsel is wise, beyond his fellows.

Digestive Organs.—Next to a healthy and vigorous condition of the respiratory apparatus, is a healthy and vigorous condition of the Digestive Organs; and the *Stomach* is the leading, or principal organ in the work of Digestion. Of course, the teeth, mouth, pharynx, esophagus, or gullet, the liver, pancreas, lacteals, thoracic duct, and the intestines, have more or less to do with digestion and assimilation (the act of converting the food and drink to a similar condition with that of the body, and appropriating it to the uses of supporting the body); but, still the Stomach, as before stated, is "*the main spoke in the wheel.*" The teeth chew, or masticate the food, while it is held in proper position by the mouth; it then passes through the pharynx and esophagus to the Stomach, (esophagus comes from Greek words signifying to eat, and to carry away). The liver furnishes the bile, and also another fluid, or excretion, which passes through a duct, or pipe that joins with the one from the gall-bladder, emptying their united contents into the inside of the *duodenum*, or second portion of the Stomach, as seen at 4, in Fig. 9. The *pancreas* is a

whitish gland, situated across the spinal column, back of the Stomach, which also furnishes a fluid, or excretion, supposed to be somewhat similar in properties to that of the saliva, as it is similar to it in appearance, being clear, or water-like. This fluid empties into the duodenum at the same point with the liver and gall-bladder, as seen at 5, in Fig. 9. This *pancreatic juice*, as it is sometimes called, is considered to have an important connection with Digestion. The *lacteals* are absorbent vessels that take up the *chyle*, a milky-like fluid from the upper portions of the intestines and carry it to the *thoracic duct*, by which it is conveyed into the blood. Lacteal and lacteous, come from the Latin *lactis*, milk, pertaining to or having reference to a milky fluid, is the meaning of the word; and it is this fluid that contains the nutritious portions of the food, the more crude, or indigestible parts passing on and out by the intestinal canal. The *thoracic duct*† is connected with the Digestive system, or organs, by carrying the chyle to the blood, as above described; the word signifying the *thorax*, or chest—the part of the body above the diaphragm. The duct, or pipe empties the chyle into the left subclavian vein, thus mingling with the blood, it goes to build up the general waste of the system which is constantly going on. Again we see the wisdom of the Creator in so constituting the blood that it should not only build up the system, but, also take up and carry out, through the kidneys, skin, etc., the worn-out, or effete matter of the system. If we had had to make these provisions, in our lack of "wisdom," we should certainly have been compelled to have provided *two* sets of vessels, or conductors. The connection of the *intestines* with Digestion will be readily understood with but little further description. After the food has been properly dissolved by the gastric juice, in the Stomach, it is passed along the intestines, from which, as above described, the absorbents, or *lacteals* take up the nutritious portions of the food to nourish the system, while the useless, or refuse portions are excreted, per *rectum*, under the name of *feces*, or "stools."

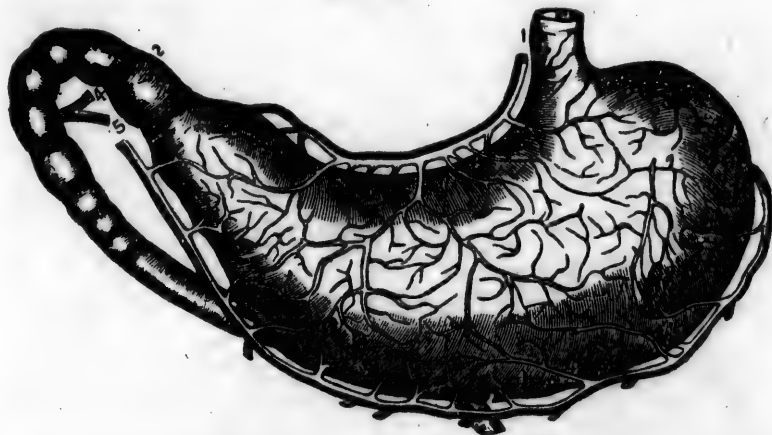
But I now return to the Stomach, the main organ of Digestion, a fair view of its natural shape and arrangement in the body will be seen in Fig. 10; and its connections and relations to the other organs, will be seen more particularly in Fig. 11.

The Stomach is a muscular sack, or large expansion of the intestinal canal. The form of it is very peculiar, the large end lying upon the left side; and the small end passing, a little, the center of the body, being turned by the peculiar shape of the liver which lies partly upon the upper portion of the Stomach, and a part of it passing down by the duodenum, turning it back-like, upon itself, where it crosses back to about the center and under portion of the Stomach 3, and then folds or curves back and forth, under the name of the *small intestines*, as seen in Fig. 11, where at 5, it enters the large intestine and ascends, or passes up to about the height of the lower part of the Stomach, where it crosses over the body in front of the small intestines, under the name of the "transverse colon," (from *trans*, across, and *vertere*, to turn); then it passes down the left side, and from 9, where it becomes smooth and straight in its outlines, it is called the *rectum* (from *rectus*

† NOTE.—The Thoracic Duct was discovered by Eustachius, in 1563, in the horse; he regarded it as a vein, and called it the *vena alba thoracis*, (white vein of the chest, or thorax). The Lacteals were first seen by Asellius, in 1622, in a dog; and within the next 10 years by Veslingius, in man.—*Wilson*.

straight, as the old Anatomists believed it to be straight, this was probably before the day of dissections); and finally the "intestinal canal" terminates at the lowest portion of the body technically called the *anus*, closed by a muscle called the sphincter ani muscle, through which the excrements, or *feces*, are expelled.

FIG. 10.



THE STOMACH AND DUODENUM.

FIG. 10. 1, the cardiac orifice, or entrance; 2, the pyloric orifice, or entrance into the duodenum, represented by the folds, or swelling and contracting portion, which in its passage on behind the lower portion of the stomach, takes the name; 4, represents the gall-duct; and 5, the pancreatic-duct. The upper curve is called the lesser curvature; and the lower side is called the great curvature. It is almost absolutely covered, it will be seen, with a net-work of bloodvessels.

The Stomach is thicker in substance than the intestines, no doubt to enable it to receive a larger amount of bloodvessels and nerves, to enable it to do a larger amount of work. While the intestines have only three coats, the Stomach has five—the inner or mucus membrane; then three layers, or coats of muscles, running in different directions, one layer running lengthwise, or nearly so, and one layer passing around; and one longitudinal, or obliquely around, although this is generally set down as only one coat; and the outer, which is the *serous*, and in the abdomen takes the name of peritoneal (from *peritoneum*, to stretch all around, or over), which not only covers the Stomach, but also the whole intestines and inner walls of the abdomen, as the *pleura* does that of the chest. These muscles, during Digestion are constantly contracting and relaxing, alternately, by which means a constant motion is kept up to aid the process, and for the purpose of pressing upon the glands that are found in the substance of the Stomach for the supply of the *gastric juice*, as it is called, which dissolves the food. The situation of these glands is in the folds of the inner, or mucus coat of the Stomach, as before mentioned; these folds or tube-like glands give a much greater surface than would otherwise have been given in the same space.

A well-known law of Digestion is, that the process does not commence until all of the fluid taken with the meal has been absorbed

or taken into the veins by the absorbents placed there for that purpose; and it is also known that if any considerable amount of water or other fluid is drank during Digestion, the process is very much retarded; and if the fluid is very cold, it is entirely stopped. This shows us why many *dyspeptics* can not take much of any fluid, as water, tea, or coffee, during meals or at any other time, because these absorbents are diseased, and can not take up the fluid, but leave it in the Stomach, which delays, or obstructs the Digestion until the food sours and causes the production of a gas that distends the Stomach to such an extent as to cause great distress, risings and "belchings of wind," etc., etc. If such persons, however, will use but little, or no fluid with their food, and not until Digestion is over, they may get along quite comfortably.

Fig. 11.



FIG. 11. 1, Esophagus; 2, and 3, the larger lobes or divisions of the liver, raised up from the stomach and intestines; 4, the ascending colon, or first part of the large intestines; 5, the cœcum (from a word meaning *blind*, or having no opening, as this does not open below, but hangs down like a pouch); 6, vermiform, or worm-like appendages, which no human wisdom has yet found out the use of; 7, the small intestines, or *ileum*, meaning *twisted*, or coiled and folded back and forth, the upper part of which is called *jejunum*, which signifies to *fast*, as it is generally found empty, the food passing quickly through it; 8, the rectum; 9, 10, and 11, the transverse and descending colon; 12, the spleen; 13, the stomach; 14, the pancreas; 15, the pylorus, or gate through which the *dissolved* food is permitted to pass, but undissolved food is not permitted to pass this valve, or *gate-keeper*, which is the meaning of the Greek word pylorus.

THE INTESTINAL CANAL.

It is not proper to eat a full meal when the system is much exhausted from over-exercise, or when weakened by disease, or when feeling "poorly," as is often remarked, from the approach of disease; for, often, in approaching disease, a full meal having been eaten, much of it remains in the Stomach *undigested*, as the "gate-keeper" will not allow such food to pass, at least, until he is completely exhausted by long watching. In such cases, an *emetic* had better be given to empty the Stomach.

Besides the ordinary nerves of sensation and of motion, the

Stomach has also a large supply of the *Sympathetic* system of nerves, in fact, both systems, or classes of nerves, as well as bloodvessels, are supplied, or furnished to the Stomach more plentifully than to any other organ of the system, because it has proportionally, the largest amount of work to perform. No matter what other organ is affected, the Stomach *sympathizes* with it; hence, if any other part of the system is injured, to any extent, the person becomes "sick at the Stomach," and fainting is the result.

The Liver.—The Liver being the largest organ of the body, and also connected with the Digestive Organs, would seem to require a little further notice, at my hands, than has, as yet, been given to it. It is a gland, and in the adult, or full grown person, weighs about 4 pounds, is of a brownish-red color, and is appended, or attached to the alimentary-canal, performing a *double* office, that of *purifying* the blood, and also that of furnishing, or *secreting* the bile. It is about 12 inches in length, and 4 to 5 in width. It is situated in the right side, at the upper part of the abdomen; it is also divided into *lobes*, the same as the lungs; the lobes are called right and left. The right lobe is the thickest and heaviest, hanging down apron-like in the right side, reaching as low as the short ribs; the left lobe is thinner and lighter, and spreads out over the Stomach, its upper surface being in contact with the diaphragm. The Liver sometimes becomes diseased, becoming very large and hard, called *indurated*, occasionally reaching the enormous weight of 25 to 30 lbs. Almost every disease, in years gone by, by the Alopaths, was laid to the Liver—the Liver was this, and the Liver was that—and of course, *calomel*, or *calomel and jalap*, was the remedy; often the *first* and the *last*; in many cases almost the *only* one given; and Dr. Scudder informs us that, "In the Southern and Western States it was used in moderation, *i. e.*, from 10 grs. to a tea or a table-spoonful at a dose. Many," he adds, "followed the rule of Prof. Cook, of Louisville, that if an apparent effect was not produced by the remedy the first day, *double* the dose the next, quadruple it the third, and so on, until, as we have authentic accounts, one-fourth, one-half, and in one case of bilious fever, over *one pound* had been introduced." Such *maltreatment*, no doubt, had much to do in raising such an outcry against calomel, as to cause its final overthrow.

The Liver is covered with the *serous* membrane, the same as all of the other organs in the abdomen. The gall-bladder is attached to the right lobe, upon the under side of the Liver. Besides the two main lobes of the Liver, which have been already mentioned, there are *three* other smaller lobes, making *five* in all; it is attached by *five* ligaments; and has, also, *five* bloodvessels entering, into its structure—the hepatic artery, hepatic veins, hepatic ducts, portal veins and lymphatics, which are of the nature of absorbents, carrying a water-like fluid, called *lymph*, the name having reference to a spring of clear water; and also believed to mean something like the Greek word *nymph*, or goddess of the water, as they were accredited as making their home in the water—mermaids.

The Spleen.—The Spleen, although it is not known to have any action in the process of Digestion, yet, as it is attached to the Stomach, its description would seem to belong in this connection. The word comes from a Greek word which signifies a *lien*, either a claim upon, or to *lie upon*, as it lies upon, and is attached to the large end of the

Stomach, in the left side, just below the diaphragm, its upper end touching the diaphragm, and to which, as well as to the Stomach, it is attached by small bloodvessels and areolar, or *cellular* tissue. Like the liver, it is a gland, of a spongy nature, filled with bloodvessels, but having no duct leading from it to show that it has any work to perform, the office of which can be at all determined—its office in the system is not known; and in some of the lower animals in which it is called the melt, or milt, it has been removed without injury to the animal so far as could be seen.

The Spleen, however, sometimes becomes enlarged, when it may be felt under the short ribs of the left side. This occurs, after low grades of fever, as typhoid, or typhus, ague, etc. What will purify the blood and tone up the system, to health, will cure the difficulty. This would appear to me to indicate that this organ has something to do in purifying the blood, the former of which it loses in the peculiarly weakened state of the system under these diseases, and hence the blood becomes obstructed in its passage through the Spleen.

The Absorbents.—Besides the arterial and venous circulation, there is another set of very small tubular, or pipe-like vessels, taking the name of Absorbents, but are of two characters—*Lacteals*, and *Lymphatics*, according to whether they carry a milky fluid—the *chyle*, or a watery fluid—the *lymph*.

The Lacteals commence upon the inner surface of the intestines and absorb, or suck up the chyle, the milky-like fluid, formed from the digestive process, and from which the blood is renewed, and the general system built up, pouring the chyle, as before remarked, into the thoracic-duct. And Dr. Gunn, in his "Domestic Physician," says that he thinks it is a reverse action of the *Lacteals*, in cholera, by which they pour back their contents into the intestines, or rather, I should say, *want of action*, in not taking up the chyle, leaving it to be passed off in the milky, and watery stools.

The Lymphatics come from all parts of the system, carrying a watery-fluid, called Lymph, and emptying it into the thoracic-duct, the same as do the Lacteals. Together, these are called the Absorbents, or the *absorbent system*. The following quotation from Dr. Gunn's work, just above mentioned, will give an excellent understanding of the object and uses of these Absorbents. He says:

"The Lymphatics suck up fluids from different cavities and parts of the body, and carry them into the circulation, and it may, therefore, be readily seen that they often prevent the occurrence of dropsies. They are compared to a greedy set of little animals, ready to lay hands on and carry off every thing that comes in their way. They seem to have no judgment as to what is good and healthy, but will absorb poisonous and deliterious substances, as well as the most nutritious. It is well known that mercury rubbed on the skin, in the form of ointment, will be absorbed, and produce salivation as effectually as if taken internally. Croton oil rubbed on the abdomen produces purging; and arsenic applied to cancers, and opium to burns, have been absorbed in quantities sufficient to poison the patients. Blood effused under the skin—nails, producing a dark appearance, is removed by these little vessels. Their office seems to be that of general usefulness, ready to take up and carry off any refuse material, *dead matter*, or unhealthy deposit, in any part of the system."

Then in case of the inactivity of the Lymphatics, as known by

dropsies, a *stimulant* and *tonic* treatment which will restore general health to all parts of the system, will certainly be called for.

The *Thoracic Duct* which forms the last or finishing part of the Absorbents, requires a word more of explanation before we leave the Digestive Organs. It begins in the lower part of the abdomen, and passes up, as before remarked, along side of the aorta and vena cava, to the neck, upon the left side, at which point it makes an arch, like the aorta downward, pouring its contents into the left subclavian vein, at a point as high as the collar bone, by which means the *chyle*, the nourishing part of the food, together with the venous blood, is conducted directly to the heart, by which means the *blood*, as well as all other parts of the system, is replenished or built up.

Nervous System.—The Brain, Spinal Cord, and the Nerves leading from them make up what is known as the Nervous System. The two first constitute what Anatomists call the *cerebro-spinal center*, the Spinal Cord being continuous with the Brain. The Brain, proper, is divided into two portions, *cerebrum*, and the *cerebellum*, as seen at 1 and 2 in Fig. 12.

The Latin word *cerebrum*, means Brain, and *cerebellum*, little Brain. Like nearly all of the other organs of the body, the Brain is divided into *right* and *left* portions; the cerebrum, or large and upper portion of the Brain is divided, in its upper part, by a dip of the membrane by which the whole Brain is enclosed. This membrane is called the *dura mater*, literally meaning hard mother, although it is more commonly designated as *strong mother*; *dura*, however, comes from *durus*, hard or firm, and *mater*, mother. Persons who have been educated in a college or university, speak of the institution as their *alma mater*, or fostering mother, and almost always remember them, somewhat with the same respect that a dutiful child will remember their good and kind mother who has done so much for them.

This membrane took this name of *mater*, or mother, because it was, at first, thought to give rise to all the other membranes of the body; and as there are two other membranes connected with the Brain, and this one the stoutest and most firm, it would appear the more natural to have been so named. The other membranes of the Brain are the *arachnoid*, from *arachnida*, a spider, as this membrane is much like a spider's web. The other is called *pia mater*, or tender mother, as this, the inside membrane, is soft and full of bloodvessels, and dips into all of its convolutions, or lobes. These lobe-like convolutions of the Brain will be readily understood by all who have taken out the brain of the hog, in cutting up that animal. The *arachnoid* is the central membrane, or covering of the Brain.

The "right and left portions" of the Brain, as spoken of above, are sometimes called *hemispheres*, meaning half of a sphere, or globe; but they are held in connection at the bottom, by a firm portion of the Nerve Tissue, called *corpus callosum*, or hard body (from *corpus*, a body, and *callus*, hard); hence, we have the word *corpse*, a dead body, etc.

The outer portion of the substance of the Brain, for from one-fourth to half an inch in depth is of a gray, or whitish-gray appearance, called the *cineritious* portion (from the Latin *cinis*, ashes), while the inner portion is whiter, or quite white, called the *medullary*, middle, or marrow-like portion (from *medius*, middle, and *medulla*, marrow).

The internal portions of the Brain; as before remarked, have folds of the membranes, also above described, which pass between

the various convolutions, and, in some other parts, are not as firmly attached to the sides of these little lobes, or convolutions, making what are called cavities, although it is not to be supposed that there

FIG. 12.



CRUMB, SC.

NERVOUS SYSTEM.

are any actual hollow places; but, rather openings, or separations; and it is in these openings, in "dropsy of the brain" where the water ac-

FIG. 12. 1, the cerebrum; 2, the cerebellum; 3, 3, the spinal cord; 4, the sciatic nerve; 5, 5, the interlocking of the different roots of the nerves, as they are called, which will be better understood by observing FIG. 13.

The nerve fibres pass like the circulative system to all parts of the body, and are divided up so finely that not a pin's point can be put down upon the skin without causing pain, even by the slightest pressure. Parts of the flesh and bones, are represented as removed, to enable the larger nerve fibres to be seen.

accumulates, the absorbents, in the membranes, being diseased, so they do not take up and carry off the accumulations.

The Brain being a very soft and pulpy mass, the dividing membrane which dips down into it from the top, and from the front and back side of the skull to which it is also firmly attached, is supposed to be for the purpose of supporting the weight, of the upper side from pressing upon the lower, when a person is lying down; at least, this is undoubtedly one of its objects.

The *cerebellum*, or lower portion of the Brain is very small as compared with the upper and larger portions, about as 1 to 6, or 7 only; for the upper and larger portions of the Brain projects over the roof of the mouth, eyes, etc., to the forehead, while the smaller portion lies only under the back part of the *cerebrum*, and back of the nostrils, and floor of the upper portion. There is a greater proportion of the gray, or ash-colored matter in this smaller part of the Brain, as compared with the large; and there is another peculiarity in the *cerebellum*, i. e., the white part is so arranged that when it is cut through, up and down, it looks like the branches and leaves of a tree, called the *arbor vitæ*, or tree of life. There is a fold of the dura mater which partly separate these two portions of the Brain. It is here called the *tentorium*, or tent; being, however, more like an awning, not cutting it off entirely, as a tent would do.

The Spinal Cord, also begins within the skull, or rather is a continuation downward of this portion of the Brain, which also, as above remarked, is not entirely separated from the upper part of the Brain, all are, therefore, connected together by this portion of the Spinal Cord, something of the shape and size of a man's thumb, called the *medulla oblongata*, or long marrow (from the prefix *ob* and *longus*, long and *medulla*, marrow, or pith). It is the commencement of the spinal marrow, but lying within the cranium, and believed to have control of the respiratory, or breathing apparatus.

The Spinal Cord.—The Spinal Cord is a continuation downward, of the Brain, contained within the vertebra of the neck and back, extending down not more than about 18 to 20 inches, or to only a little below what is called the "small of the back," where it terminates in a roundish point, to the external appearance, but, in fact, the end is split up into fibres, or fine nerves, so much so that it takes the name of *cauda equina*, or horse's tail (*cauda*, signifying tail, and *equus*, a horse, pertaining to, or resembling a horse's tail). The gray and white substances of the Spinal Cord are reversed to what they were in the Brain, the gray being upon the inner side of the Cord; but the Cord is divided, or partially so, into halves, backward and forward, making right and left sides, and each half is also partially divided into three lobes, or divisions, the furrows, or fissures, all running up and downward in the Cord; but notwithstanding all these divisions in the outer surface of the Spinal Cord, yet, the center or gray portion is not divided; the Cord actually being a whole, and also a whole with the Brain, notwithstanding all these partial, or seeming divisions. From these side lobes, or divisions of the Spinal Cord, the nerves of *sensation* and of *motion*, take their start, and extend to all parts of the body; or, rather it will be seen by referring to FIG. 13., that these Nerves appear to come out of the fissures, or furrows, which will also be plainly seen in the same FIG. These Nerves leave the furrows in small fibres, but soon unite together into one cord, which also soon unites with a

similar cord, or Nerve which comes from another furrow, as seen at 4, FIG. 13, in all cases passing out downward, all leaving in *pairs*, one to the right, the other to the left—31 pairs in all. Each Nerve, it will be seen then, has *two roots*—a root of sensation, called the *sensitive* root; and a root of motion called the *motor* root. It is supposed that the roots arising from the front side are the *motors*, and those from the back part of the Cord are *sensitives*—the Nerves that cause us to feel pain or pleasure, and the others that enable us to move about, by the *act of the will*, as previously spoken of.

FIG. 13.



NEVRES, MOTOR AND SENSITIVE ROOTS.

FIG. 13. 1, shows a section of the spinal cord, with membranous sheath, or covering; 2, the membrane folded back to show the furrows, or fissures of the cord, with the fibers, or roots of the nerves starting out from them to unite into one bundle, 3 and 5, then, at 4, to unite into one cord. These nerves, however, after having formed the union, send off branches, or filaments to all the organs and tissues of the body. At 3, there is noticed a swelling, or enlargement of the nerve, called a ganglion.

Besides the enlargement of the Spinal Cord in the *cranium*, called the *medulla oblongata*, which throws off the Nerves that control the respiratory organs, there are *two* other enlargements; the *first* in the lower part of the neck, at which point the brachial, or Nerves of the arms are given off; and the *second*, in the lumbar region, or small of the back, giving off the Nerves to the lower extremities. The *ganglion*, or enlargement of the Nerve as seen at 3, in FIG. 13, is common to most of the Nerves, and it is supposed to give additional strength, or power to the Nerves, and from which branches are thrown off. The membrane that covers the Spinal Cord, and the Nerve branches, is a continuation of the pia mater, or the strong membrane of the Brain. It also dips into the furrows, forming their divisions, the same as it does in the Brain. The covering, or sheath of the Nerves is called *neurilemma*, (from Greek words that signify a nerve, and a sheath, or covering coat); hence, we have *neuralgia*, or pain in a Nerve.

The Nerves themselves, are composed of the white substance only, of the Brain, and Spinal Cord, none of the gray matter appearing in them; they run to every part of the body and mix, or communicate freely with each other on their course, continuing to divide until they are so small as not to be seen by the naked eye. This commingling together is very beautifully shown at 5, 5, in FIG. 12.

Besides the Nerves of *sensation*, and of *motion* as described above, there is the *Symphathetic* system of Nerves, also, which go to bind the body into one harmonious whole; and this system of Nerves, although originating in the Brain, and connected extensively with the Spinal Cord, is believed to receive additional strength from its various *ganglia*, or swelling-like enlargements along the Spinal column, which are always found at these points of connection. The Sympathetic Nerve communicates with all of the Nerves of the Brain, and also with the Spinal Nerves, as they issue from the Brain, and from the Spinal Cord; and they accompany the arteries of supply to all of the different organs of the body. This Nerve seems to be set as guard over all

the different parts of the body, combining and harmonizing the actions of the different organs, giving due notice if any part or organ is injured. Digestion, absorption, nutrition, or supply, the circulation, and the respiration are all under its control: so that while we sleep, these natural processes upon which life, itself, depends, go on just the same as when we are awake, and it is very probable that this is the main work of this system of Nerves, to keep up the harmonious action of all these *involuntary* processes of supply and waste. The circulation, digestion, absorption, and secretion, must all go on whether we are asleep or awake; and without this watchful harmonizer, or sentinel, it is believed, that when the Brain lost its consciousness, as in sleep, death would be the immediate result.

When any part of the system is out of order, or is injured, the Sympathetic Nerve communicates its wants, or its condition to every other part; but we realize this more particularly in the stomach, which so often becomes sick, as we call it, upon the injury of some other part, refusing to take food, seemingly, knowing that it could not be digested while the strength of the whole *nervous system* is concentrated upon the injured, or inflamed part; and well would it be for many people, suffering under injuries, or from inflammatory diseases, if they would eat more sparingly, and only of gruels, or of some other very digestible kinds of food.

Although the Brain is the seat, or center of nervous influence, taking cognisance of pain in other parts, yet, it can be cut without any sensation of pain. The Nerves of the eye and ear, are of this class—*insensible*; while the Nerve fibers going to the skin are very quick to recognize pain, and are, therefore, called *sensible*. Why this should have been so arranged, perhaps, may be accounted for by the extreme fineness of these organizations, if permitted to realize pain from cutting, it would have been so very extreme; while it is known to those who have submitted to surgical operations upon these organs, especially the eye, do not find the pain to at all compare with what they had expected from their natural delicacy. These organs, however, are very susceptible to *light* and *sound*.

In case of the cutting off, or of other destructive injury to the Nerve, or Nerves leading to any organ, or part of the body, the *function*, or action of that organ is destroyed; and when it occurs to those of any of the organs upon which life depends, death is soon the result.

Besides the *sensible* and *insensible* Nerves they are classed also under the heads of *voluntary* and *involuntary*, i. e., the Nerves of the arms and legs, especially, are under the control, or act of the *will*, and by this control, motion—moving from place to place, labor, etc., is brought about, or carried on *voluntarily*; while the Nerves of the stomach, heart, lungs, intestines, etc., are not under our control absolutely, although, when awake, we can to a certain extent, control their action, yet, they carry on these functions whether “we will or no,” and are, therefore, called *involuntary*—they act *independent of the will*.

Besides the 31 pairs of Spinal Nerves, before mentioned, there are 12 pairs originating in the Brain, passing out through openings, or *foramen*, as they are called in medical works, (from the Latin *forare*, to bore, or pierce—a little opening), through the floor, or *base* of the Brain. They are named and distributed in the following orders:

First Pair, the Olfactory, or nerves of smell; one to each side of

the nostrils, (the word comes from *olfactum*, to smell). Second, the *Optic*, or nerves of sight; one to the retina of each eye, or that part of the eye that reflects the image of what we see, (the word comes from the Greek, meaning to see; hence, we have the word *optics*, relating to the laws of light, optical instruments, etc.). Third, the *motores oculorum*, referring to the motions of the eyes; they go to the muscles of the eyes; also the Fourth, *Patheticus*, is distributed to the muscles of the eyes; and is the means by which sympathy, as pity, or grief, are manifested, (the word is the Latin for passion, as pity, or grief, as shown by the eye). Fifth, the *Trifacial*, (*Tri*, three, and *facies*, the face), because it is divided into three branches, and is distributed to the face, including the mouth, teeth, jaws, nose, and forehead. Sixth, the *Abducentes*, (from *abducere*, to draw away, or take away; hence, we have also *abduct*, to steal and carry away), so called because it is distributed to the outer muscles of the eye, to turn them out, or away from the center. Seventh, the *Portio Mollis*, (*portio*, a part, and *mollis*, soft), being a softer, or more pulpy nerve than usual, and also divided, being distributed to the outer, or hearing portion of the ear—the *auditory*, or hearing Nerve. Eighth, the *Facial*, which is distributed to the muscles of the face, while the *trifacial* was sent to the more internal parts of the face. Ninth, the *Glosso-Pharyngeal* (from *glossa*, the tongue, having reference also to glossiness, glistening, a speech, or writing, etc., to make appear fair, plausible; and *pharynx*, the throat), is sent to the membranes of the tongue, throat, and the glands of the mouth. Tenth, the *Pneumogastric*, (the word coming from two Greek words, signifying the lung, or lungs, and the stomach); and although the name only indicates the lungs and stomach, yet, besides these, it is distributed also to the throat, liver, spleen, and intestines; it is also called the *par vagum*, (which means little wanderer, or equal wanderer, from *par*, equal, and *vagari*, to stroll, or wander about), as it goes to so many parts. Eleventh, the *Spinal Accessory*, (from *spina*, or *spinalis*, the spine, and *accessorius*, literally to aid, or help; but, it is used here, rather to indicate company, to accompany), joining with the Glosso-Pharyngeal and Pneumogastric, and is distributed to the muscles of the neck. Twelfth; the twelfth pair is called the *Hypo-Glossal*, (*hypo*, under, and *glossa*, the tongue, under the tongue), and is distributed to the muscles of the tongue, by which it has its motion.

The Spinal and Sympathetic Nerves have already been described, in connection with the *illustrations*; to give a general understanding of their uses, and distribution, I think, although it is not to be supposed that I could take up all of their relations, and connections; the same is true of all of the branches of Anatomy; but if I have given a sufficient description to enable the readers of this Work, to understand the subject as it is connected with the diseases herein treated upon; and also to awaken in the young sufficient interest to induce them to follow up the study, by obtaining other Works on Anatomy, I have accomplished my fullest expectations; and I will only add, that the single study of the Anatomy of the human system, is sufficient in itself, to satisfy us that the *wisdom* of the Creator is too great for our comprehension. There are many, very many, things in the organization of our system, that thousands of years of study has not yet comprehended, or found out, and never will; but, yet, the study is very interesting, and also very useful. Let no one neglect to

obtain all possible knowledge upon this subject, for indeed, "we are fearfully and wonderfully made." Let them also make good and practical use of that knowledge, for their own, and the *general good*, then they will not have lived in vain. With a hope that this desire may be realized by all of our readers, we leave it for their consideration, and proceed with other subjects, in their regular order.

For Illustration and Description of the Skin, and its functions, see BATHING.

APOPLEXY.—The word Apoplexy is made up from Greek words which signify a striking, or knocking down, from the fact that the person attacked with it generally falls to the ground, losing all the senses, and motions, except those of the heart and lungs.

Cause.—A rush of blood to the head, or brain, which some think is hereditary, (coming from parents, or ancestors further back). Those who are most liable to the disease are of a full robust frame, and generally fleshy, broad shouldered, large head, short neck, etc. And those having it are also, generally, those who love good victuals and a plenty of them, and if accustomed to the use of spirits, the liability is so much the greater, and the attack is quite likely to come on while the stomach is distended with a full meal. "Sun-stroke" is considered by some to be of a similar nature, and it may be brought on by excessive cold, which causes the blood to recede almost entirely from the surface.

Symptoms.—Sometimes the attack is without warning, "striking down," as the name implies, at once, and fatally; but generally it will be preceded by a dull pain in the head, giddiness and weakness, especially on stooping, drowsiness, dimness of sight, loss of memory, inability to speak plainly, flushed countenance, hot head, etc., etc. But upon the attack the person drops in a mass, and lies entirely unconscious, breathing in a stertorous, or snoring-like manner.

Treatment.—The first thing to be done is to straighten the person out, elevate the head a little, loosen the clothes, take off neck ties, open the collar, etc., and if in a house open the windows, and if out of doors, keep back the crowd to allow fresh air, remove boots, or shoes, and stockings and chafe the feet and legs, and as soon as possible get them into hot water, apply cold water to the head, by wetting cloths and laying them upon, after having carefully wet the hair and head with it. If no hot water can be had at once, and there is mustard or cayenne pepper on hand, chafe the feet and legs with either of them, and a mustard plaster may be applied to the stomach; but nothing can be given internally, unless by injection, and this need not be done unless these first directions are of no avail to restore consciousness; then, and in that case, give an injection of salt, ground mustard, and lard, or oil, of each a heaping tea-spoonful, in warm water, 1 pt., which will have a tendency to draw the blood from the head, and aid in getting a passage from the bowels; this may be repeated in half an hour if deemed best. Let the hot water for the feet and legs be got ready as soon as possible, and used thoroughly, for 30 or 40 minutes. And after consciousness and comfort are again restored, a full cathartic may be given, and such diaphoretics as will aid to keep the surface in a mild and gentle perspiration. Avoid, in the future, all stimulating food, that is, high seasoned food, and all stimulating drinks. And, as a preventive, in persons predisposed to it, when they realize any or all of the above symptoms, let them use frequent cathartics, say twice a

week, plain food, no spirits, cool baths for the head, and hot ones for the feet, out-door exercise, but avoiding fatigue, and many cases of Apoplexy will be avoided. Sometimes this disease leaves its effects in the form of a paralyzed arm, or leg, and occasionally the whole side, *palsy*, for which, but little can be done. Friction with any good stimulating liniment, 2 or 3 times daily, with the other precautions as to living, and electricity is believed by some to be beneficial in palsy.

ASTHMA.—This word comes from a Greek word which means, I breath hard. It affects the lungs and bronchial tubes, and is generally of a spasmodic nature, and most frequently occurs, or is worse, in the night than in the day.

Cause.—It is undoubtedly of a hereditary character, although, so far as it can be known, it occasionally arises in persons spontaneously, or apparently from direct cause; and this is borne out by a friend of mine, who has had it many years, and is qualified to judge understandingly of its cause. He believes it to arise from spinal irritation, or disease, especially from an irritation of the upper portion of the spine. It is, known, to be more likely to occur in damp situations than upon high and dry locations. And it may be caused by a sudden change, from dry to a damp atmosphere, and from the subsidence (stopping gradually) of other diseases; but when it has once occurred, it is seldom entirely cured; but, occurs again, and again, from any of the above causes, and from severe exercise, as ascending stairs, from too full meals, violent passions, irritation from dust, smoke, etc.

Symptoms.—The stomach is often oppressed from indigestion, causing a distention by the accumulating gas, heart-burn, fullness of the head, pain over the eyes, sleeplessness, and a sense of tightness across the chest, and sometimes nausea; the tightness across the chest increasing until he (more men have the disease than women) starts up from his bed and raises a window, for air, no matter how cold, as though he expected to draw but a very few more breaths, and takes breath by gasps, with a terrible wheezing noise, according to the severity of the case, which, if nothing is done, will probably subside toward morning, slowly and steadily, often with a free expectoration, after which the patient may fall into a pretty quiet sleep. This may continue, or rather relapse, every night for 3 or 4 nights, and in well established cases, persons have been known not to take the bed, nor have a comfortable night for many weeks.

Treatment.—If the spasmodic action is very considerable, and has arisen soon after a full meal, let an *emetic* be at once administered, if such an article is in the house (as it always ought to be where there is a family of children, or an asthmatic person), in the meantime get the feet into hot water for 15 or 20 minutes, followed with *mustard* to the feet, to divert the blood from the lungs; and if an emetic is taken, a tea of catnip, pennyroyal, or some other diaphoretic article may be given with it in place of clear warm water, but that may be used if nothing else is at hand, for vomiting will be easier and with less of the emetic, by using freely of some warm drink. See **EMETICS**.

The difficulty with asthmatic patients, in not being able to effect a cure, or at least a very considerable benefit, is, that they will not continue the remedy sufficiently long to make a lasting impression, i. e., to work an alterative effect, to do which, the medicine must be taken 3 or 4 times daily, for a month or two, or three, as the previously short

or long establishment of the disease would seem to call for. Very great benefit has been experienced by the use of the following:

Fluid extract of lobelia, 2 ozs.; iodide of potash, 3 drs.; tincture of capsicum, 2 drs. Mix, and see that the iodide is dissolved. Dose.—A tea-spoonful after each meal, and at bed time.

Inhalation has recently come into extensive use for almost every disease; and the probability is that there is no diseases that will derive greater benefit from it than those connected with the lungs, bronchial tubes, and throat; and among them, the following *alterative* inhalant will be found very valuable in Asthma, as well as in other diseases requiring an alterative:

Alterative Inhalant.—Tinctures of lobelia, and ipecacuanha, of each, $\frac{1}{2}$ oz.; tincture of balsam of Tolu, 3 drs.; etherial tincture of conium maculatum (poison hemlock—the tincture is made by keeping 1 dr. of the powdered conium in sulphuric ether for 2 weeks), 1 dr.; iodine, 4 grs.; iodide of potash, 8 grs.; alcohol, 4 ozs. Mix. To inhale, put 2 tea-spoonfuls of this mixture into the *inhaler*, which see, with a gill of hot water and inhale, or breath it 5 to 10, and finally 15 minutes, as you become accustomed to it, 2 to 4 times daily.

The Inhalation of the vapor made by pouring boiling water, 1 gill, upon camphor gum broken fine, $\frac{1}{2}$ oz., and inhaled the same as the above; or by pouring the boiling water on the same amount of the balsam of Tolu, either one, will be found to give present relief. Breathing the fumes arising from boiling tar in any old dish, often gives relief. Smoking a mixture of tobacco and stramonium leaves, will often do the same, a draw or two of the smoke may be taken into the lungs, as it can be borne, and benefits, or relieves. Breathing the fumes arising from burning spongy paper which had been soaked in a strong solution of niter with water, and dried, has given great relief. It will burn readily, although slowly, from the presence of the niter, without blazing. It can be put in a basin, and the head held as near it as may be, or simply burned in the room. It may be smoked as a cigar, or by pipe, drawing lightly of the smoke into the lungs.

Chloroform, 15 to 30 drops on a handkerchief and breathed, or inhaled into the lungs quite often gives decided relief.

Forced Breathing for the Relief of Spasmodic Asthma.—

Dr. J. S. Monell, of New York, reports through the *Medical Recorder* of that city, of Aug. 15, 1866, that, in the previous December, he was having, one night, a severe attack of Spasmodic Asthma, to which he had been subject for 15 years. He was standing, or rather leaning, at the foot of his bed, with his arms folded upon the foot-board for a pillow, the forehead resting upon the folded arms; and while laboring for breath, the thought occurred to him that he would stop breathing for a few seconds, which he did, and after several trials obtained considerable relief; after which he forced out all the breath that he could, and determined not to draw any more in until he was compelled to do so. He succeeded in waiting several seconds; then drew in to the fullest capacity of the lungs, and, with great effort, held it for several seconds. And so continued to force the inspiration to its fullest extent, and then force the expiration in the same way for 15 minutes; when, to his great delight, he found the spasm was *entirely relieved*. He afterwards relieved similar attacks by the same means, in two minutes. He afterward met with the same success with others, ex-

cept in one case, an old lady who had heart disease. It will require a great effort to accomplish it, but, he assures us, that perseverance will soon delight the patient with entire relief from the spasm.

I account for the relief of the spasms in Asthma by the foregoing method of inflation or distention, in the following way:—the disease being a nervous one, the *nerves* which are distributed to the little circular muscles, or rings, which encircle the tubes and air-cells of the lungs, cause these muscles to contract and thus shut off the air which is necessary to purify the blood as it passes through the lungs, upon the same plan that a purse string is drawn by the miser around the mouth of his purse, so that only 3 cent pieces can get out, while all larger monies are retained, except when some extra effort is made by which 50 cents, or possibly, a dollar may be got out, but it snaps back again "with a vengeance," while with muscular fiber, the reverse is the case; the more often that any sphincter (circular muscle) is forcibly distended the sooner it loses its power of contraction; and, thus the relief is *sure* to be obtained; although the same cause may afterwards bring on the same difficulty. I look upon this as *positive* for relief for the time being. This agrees also, it will be observed, with the idea of my friend, referred to in the commencement of this subject, that Asthma arises from the irritation of the upper portion of the spine, which distributes its nerves to the lungs, heart, etc.

In Cohen's Therapeutics (discovery and application of remedies) and Practice of Inhalation, I find a report which had been made by Dr. Wistinghausen, in the *Petersburger Medical Zeitschrift*, of a case cured by Inhalation of Fowler's solution of arsenic. A young girl, 15 years of age, whose mother had died of consumption, had suffered from childhood with laryngeal and bronchial catarrh (a discharge of mucus from the larynx and bronchial tubes) terminating in an inflammation and swelling of the substance of both lungs, with asthmatic paroxysms (spasms). After the employment of many other remedies, external and internal; after a residence of *three* Summers at Wielbach and Ems (celebrated watering places), and the resort to local gymnastics during *two* Winters—all without benefit—she was, at the suggestion of Prof. Eck (a celebrated Professor), placed under the treatment, by *Inhalation* of Fowler's solution of arsenic (kept by druggists). The dose was 10, 15, and 20 drops in distilled water, 1 oz., once or twice a day. The same remedy had been administered inwardly without advantage, as had also 1-20 to $\frac{1}{4}$ gr. of nitrate of silver, 4 times a day. After 10 days of Inhalation, 10 minutes each day, the Asthma ceased *entirely*, and the Inhalations being continued, did not return during the severe and cold Winter and the variable Spring of 1861. The patient could expose herself in all weathers without using the respirator (an instrument made of fine wire to cover the mouth of persons of weak lungs, the breath keeping the wire warm, warms the air as it is drawn into the lungs) with which, until then, she could not do without, even for a short walk. She could also join in the dance until late into the night without any trace of fatigue, or shortness of breath, though before this treatment, the very excitement of receiving an invitation to a party would bring on a severe attack of Asthma. The other difficulties, however, were but little improved. In all she inhaled, 4 ozs. of the solution without any symptoms of poisoning by the arsenic. Other cases are reported as benefited by the same treatment.

Permanent cures are claimed to have been effected with the following preparation. That present relief may be obtained from it, I know, and in all probability it will work some permanent cures; but no one thing will be found to cure absolutely in all cases, because there will be found complications of other diseases, differing in different persons:

Lobelia seed and skunk cabbage balls, of each, $\frac{1}{2}$ oz.; high cranberry bark, 1 oz.; stramonium seed, and capsicum, of each, $\frac{1}{2}$ oz.; alcohol, 1 qt. Mix, and in 2 weeks it will be fit for use, if shaken daily during this time. Dose.—Half to 1 tea-spoonful 3 or 4 times daily as a cure: and every 30 minutes for relief.

Bathing daily, is believed, by some, to be absolutely necessary to enable the system to resist the tendency to take cold, which is almost certain to bring on an attack of Asthma, with all who are accustomed to the disease. Beginning with warm water, then a little cooler, and finally cold, keeping this up until the little changes of the atmosphere does not leave so quick an effect upon the system. For my own part I have never deemed it desirable to take a daily bath, except in fevers, and then using more or less of spirits to stimulate the surface to action; but there are those who can stand a daily cold bath. I should prefer a daily sponging with a tincture of cayenne, $\frac{1}{2}$ oz. to whisky, 1 qt., sponging the whole surface before dressing in the morning; with this sponging, and a cold or tepid bath twice, or three times a week, at most, with the continued use of some of the medicines recommended above, for a permanent cure, a decided and permanent improvement may reasonably be expected.

Dr. Ray's Successful Treatment of Asthma.—I do not feel at liberty to dismiss the subject of *Asthma* without calling especial attention to the Ferrocyanuret of potash, more commonly called Prussiate of potash. My attention was called to its use in this disease by a communication from Dennis Ray, M. D., of Woodland, Cal., published in the June No. 1871, of the *Eclectic Medical Journal*, of Cincinnati, O., in which he gives several cases in practice where this article proved very successful, so much so, that I was induced to try it in a very bad case, where, as the saying is, "every thing else had failed," and although it has been in use, at this writing, only a short time, it is giving very great satisfaction, yet he has only used it *three*, instead of *five* times a day. I am satisfied of its value, and most cheerfully recommend its use in any similar cases to those reported in Dr. Ray's communication, as I will give it entire, for the benefit of all who may need it. The prescription I used in this case of Asthma, is the one in CASE V. below. He says:

"Notwithstanding the great obscurity of this article, and the unimportant place assigned it in our *Materia Medica*, I venture to select it as the basis for a few remarks, drawn wholly from experience in practice. My attention was first drawn to the article by reading a communication to the *American Journal of Medical Science*, written by Dr. Smart, of Maine, in which he quoted some German authority for its use. He spoke of having used it to some considerable extent in neuralgia, Asthma, and some bronchial affections, with satisfactory results. More lately there have been published several short articles in the *Eclectic Medical Journal*, of Cincinnati, upon its use, which I hope will tend to stimulate a more general trial of the salt.

"Although not fully endorsing the doctrine of Todd and some others as to the origin of Asthma, but being fully satisfied that this article had great control over the nervous system, I made trial of it in cases of Asthma with success.

"Then the question of its usefulness in functional disease of the heart, presented itself, far more particularly in those associated with a rheumatic diathesis. Trial was made with decided success.

"I also made many trials of its virtues in relieving that general disturbed condition of the nervous system of females, so often manifested at or near that critical period called "change of life," in almost all of which it seemed to be just what was needed to give tone and relieve irritability of the nervous system. Many cases of obscure hysteria were successfully treated with it. Cases of palpitation of the heart so often met with, and so often improperly diagnosed as structural lesions of the organ, are almost always under the control of judicious treatment addressed to stomach, bowels, nervous system, or the organs of generation. Happily we have articles at our command which seldom fail to answer all these indications.

"With these preliminary remarks I now proceed to give a few cases in practice.

"**Case I.**—C. D., aged 36, had followed gold mining in the mountains of California, during which time had frequent attacks of inflammatory rheumatism, followed by palpitation of the heart, ringing in the ears, vertigo, intermitting pulse; was frequently aroused from sleep with a sense of suffocation. Came to the valley for medical aid—was treated by six or eight different medical men, (all Old School), for a period of more than two years, most of the time unable to follow his legitimate trade, (that of house carpenter). Finally called at my office for advice, when the above history was given. Prescribed Ferrocyanuret (Prussiate) of Potash with Aconite, which was taken for eight days, with decided amelioration of all the distressing symptoms, after which Ferrocyanuret of Potash with a few drops of ether were taken for a period of two months; all of which time patient was earning four dollars a day at his trade, sleeping soundly at night, ringing in the ears entirely relieved, pulse normal (healthy). Discontinued medicine, and declared himself a well man.

"**Case II.**—Mrs. McD., widow, aged 30, seamstress, robust constitution, but for many years subject to severe attacks of neuralgia upon the slightest change in the atmosphere, even a change in the direction of the wind would often induce an attack. She would suffer intolerable pains, either in her face, head, or limbs, the disease not confining itself to any especial organ even in the same attack. Called at my office for medical aid, when in addition to the above, stated that her digestive organs were in good condition, bowels regular, catamenia (turns) appearing at regular intervals, and of natural color and duration. Prescribed as follows:

Ferrocyanuret of Potash, 1 oz.; water, 2 ozs.; simple sirup, 6 ozs.; sulphuric ether, 40 drops. Mix. Dose.—One tea-spoonful five times a day, with constant improvement. No return of symptoms since. Continued treatment for two or three months. The case being one of nervous irritability, needed no other than a sedative treatment.

"**Case III.**—Mrs. B., aged 38, mother of many children, had frequent attacks of facial and cardiac neuralgia accompanied with fits of hysteria (globus), constipated bowels and indigestion, with its train of

evils, and was fully impressed with the belief that she was the subject of an incurable heart disease. Prescribed Carbolic Acid for indigestion, kept the bowels in a soluble condition, and for the other symptoms, potash and ether, as in the preceding case. Patient progressed as favorably as could be desired, until she declared she had no further need for treatment.

"Case IV.—P. C., aged 35 years, married, had no offspring, blacksmith, strong and muscular, has suffered from heart disease for eight years, and had much treatment for a mistaken condition of the system. Diagnosed as structural lesion of the heart. In this case, the diagnosis had to be made by the rule of exclusion, as his digestive organs were in perfect condition, kidneys normal, and all the functions of the body, except the heart, and the sound of that not indicating any structural lesion. Yet the patient was the subject of most intense suffering from palpitation, ringing in the ears, vertigo by day and a sense of immediate suffocation at night, never sleeping all night without more or less of these attacks, which always compelled him to arise and seek fresh air. Now by the rule of exclusion I have set aside almost all of the exciting causes of such a condition as I have so faintly described, and of course to treat the case rationally, I must arrive at some conclusion as to the cause. We have still left however, one very fruitful source of such a condition, that of *excessive venery*; and upon this I based my treatment. Now there are two important indications to be fulfilled, that of removing the exciting cause, and sedation to the nervous system, and to accomplish these objects, I contend that we have some "room for trading," one of our favorite authors to the contrary, notwithstanding. Fortunately we have one article capable of fulfilling both indications. To do this it must be both *antiphrodisiac* (against sexual indulgence) and *sedative*, (to allay irritability) and Ferrocyanuret of Potash is its name. This with a few drops of ether was given in the before mentioned doses for a period of several months, and all the old complaints were almost forgotten by the patient, but instead a new one was made. The patient had no desire to attempt to *propagate* his species, which of course will soon pass off after the salt is omitted.

"Case V.—Mrs. S., aged 48, has suffered for many years from palpitation of the heart, with dyspnoea (difficulty of breathing) and Asthma, had often been under treatment by different medical men of some notoriety, but without permanent benefit, all of which was made known on my first visit. Prescribed as follows:

Ferrocyanuret (Prussiate) Potassa, 1 oz.; water, 2 ozs.; simple sirup, 6 ozs.; sul. ether, 1 dr. Mix. Dose.—One tea-spoonful five times a day, for a period of three or four months, with entire relief both of heart symptoms and of the respiratory organs.

"Case VI.—J. M., aged 60, male, feeble from long indisposition and much medication, subject to chronic bronchitis of long standing, expectorated freely a tough and glairy mucus, sometimes streaked with blood, making constant efforts to clear his throat, troublesome cough at night, much irritability of the throat, uvula elongated and spongy. Called at my office, and gave the above history, stating that he had lost all hope of relief, having often been treated before. Prescribed as follows:

Ferrocyanuret of Potassa, 1 oz.; alcoholic extract of hyoscyamus, 1 dr.; water, 2 ozs.; simple sirup, 3 ozs. Mix. Dose.—One tea-

spoonful 5 times a day, which was taken for some months, with gradual but permanent relief.

"In addition to the above uses, I have found this salt of much value in the treatment of spermatorrhoea, also in nocturnal emissions, (brought on by self-abuse. See MASTURBATION). And I am of the opinion that it will yet be found to be of much service in the treatment of chronic rheumatism, as in all cases where there is an excess of fibrin in the blood."

ALTERATIVES.—It is proper, perhaps, for me to say, before speaking of any one class of medicines in particular, to mention the different classes that I have deemed it necessary to speak of in this Work, for family use, aside from those embraced in the Receipts. They may be classified under the fourteen following heads, coming in their appropriate place in the *alphabetical arrangement* of the Work:

Alteratives, Antispasmodics, Astringents, Cathartics, Detergents, Diaphoretics, Diuretics, Emetics, Emollients, Expectorants, Narcotics, Sedatives, Stimulants, and Tonics.

Alterative Sirup.—The word Alterative comes from the Latin *altero*, I change, meaning a medicine that will aid in restoring health without causing any considerable evacuations from any organ in particular; but a medicine that shall improve the general health. The following Alterative Sirup, or compound Sirup of Sarsaparilla, as amended and improved by Prof. King, of Cincinnati, will be found very valuable:

1. Take of the roots of the small spikenard,† yellow dock, burdock, and ground guaiacum-wood, of each, 10 ozs.; bark of the root of sassafras, of Southern prickly-ash, elder flowers, blue flag-root, of each, $\frac{1}{2}$ lb.; alcohol, 2 qts.; crushed sugar, 16 lbs.; iodide of potash, 4 ozs.

Grind all of the roots and barks finely, and place them in a large mouthed bottle, so they can be got out handily, and put on sufficient of the alcohol to cover them, and cork up and let stand 2 days; then strain off, percolate (see PERCOLATION), or filter off 1 qt. by pouring on more of the alcohol if necessary, and set aside the spirit tincture, which this would now be called; then put the ingredients into a suitable kettle and add 2 galls. of water, and boil from 1 to 2 hours; then strain, or percolate off the liquid. If, in boiling you have more than 6 qts., evaporate to that amount; then add the sugar and dissolve it by heat, removing any skum that may arise as it comes to a boil; now remove from the fire, and when cool, add the tincture saved at the beginning; and also the iodide, which should be dissolved in a little of the tincture. This should make 2 galls. of Sirup. Half or one-fourth the amount can be made as preferred. Bottle, cork, and keep in a cool place.

Dose.—The dose would be from a tea-spoonful, to a table-spoonful, in a little water, 4 times a day—at each meal, and at bed time. The iodide is sometimes omitted in the making, and added, the proper proportion, to each bottle as used—1 oz. to 1 qt. is as strong as I use it; but some use it 1 oz. to 1 pt. This Sirup is a valuable Alterative in

†The small Spikenard, is the *aralia nudicaulis*, known also as the American Wild, or False Sarsaparilla, growing in most of the Northern States. King says that he substituted this for the Honduras, as many physicians consider it to be the more active agent of the two. Any articles that are well known, which I speak of as I progress with this Work, it will not be necessary to give the *technical*, or medical name, the object of which is to avoid mistake, or in being misunderstood.

scrofula, liver difficulties, diseased bones, syphilis, diseases of the skin, etc., etc., and, in fact, for every disease requiring an Alterative.

If any of these articles can not be obtained of the druggist near you, they can get them from any of the druggists in Cincinnati, O., or of Tilden & Co., N. Y., and the same will hold good of any of the concentrated remedies, recommended in this Work. And if any one desires they can have druggists prepare this, or any other Sirup, or article recommended in this Work. Of course, this, or any other Sirup can be made without the use of alcohol; but there are some of the valuable parts of nearly all roots and barks that water alone will not bring out, and hence it is best to use spirits of some kind to cover them and let them soak in for a day or two; then, if there is any condition of the system that will not allow the use of spirits, they can be boiled with water, by which the spirit is all evaporated, as spirit is so volatile that it flies off by the use of heat—a good article of whisky will answer every purpose, especially so, if the spirit is to be evaporated off—if no spirit is to be retained in the Sirup, less quantities should be made at one time, as the Sirup does not keep as long without, as with the spirit. If whisky is used, however, in place of alcohol, the amount should be doubled to get the proper strength. Besides the articles called for in the different Alterative Sirups, given in this connection, I shall mention a few other articles that experience has prove to be valuable Alteratives.

2. The Compound Sirup of Stillingia, is very highly esteemed as an Alterative, and is very extensively used. Its composition is as follows:

Take stillingia root (common names, queen's root, queen's delight, yaw root, and silver leaf—this root was named after Dr. Stillingfleet); root of corydalis (common names, wild turkey-pea, stagger weed, squirrel corn, etc.,) of each, 1 lb.; blue flag-root, elder flowers, and wintergreen leaves, of each, $\frac{1}{2}$ lb.; coriander seed, and prickly-ash berries, of each, $\frac{1}{2}$ lb.; crushed sugar, 12 lbs.; alcohol, 3 pts.; iodide of potash, $\frac{1}{2}$ lb. With this Sirup it is customary to use the iodide, as here given, at the rate of 1 oz. to each pt.; but less can be used if thought best, and some like to combine 2 ozs. of blood-root with this. The roots, flowers and berries are all to be ground, as in No. 1, and treated in the same way, making 2 gals. of Sirup.

Dose.—The dose of this would be only 1 tea-spoonful to a table-spoonful, 4 times daily, the same as the first; but if the iodide is used only $\frac{1}{2}$ oz. to the pt., or without any, the dose may be doubled. To be taken in a little water.

This Sirup is highly recommended, and extensively used in scrofulous disease, syphilis, diseases of the bones, liver and all glandular enlargements, mercurial diseases, etc. An article of this name is kept on sale, but I prefer to make it, or to have it made by my druggist, then I know what I am taking, or giving.

3. American Ivy—Five Fingers.—Prof. Scudder says the bark of this vine is one of the most efficient Alteratives we possess, both in scrofula and diseases of the breathing apparatus. In old ulcers, and chronic and obstinate eruptions upon the skin, the infusion (tea without boiling) taken internally, and applied to the ulcers, 2 or 3 times daily effectually removes the disease. The twigs may be used and the rough bark should be brushed off.

DOSE.—Of the infusion, 3 or 4 table-spoonfuls. This is also known by the names of wild-wood vine, false grape, Virginia creeper, woodbine and five leaves. It climbs trees, sometimes 50 feet high, in rich soils.

4. Elder Flowers.—The flowers of the white-pithed elder makes a valuable Alterative Tea, for children, in skin diseases, as well as in scrofulous conditions of the system. They are slightly cathartic as well as having a tendency to produce sweating, improving the appetite and digestion. The bark may be used for adults, with care, for it is more cathartic in its action; and the bark of the root is cathartic and diuretic, and is considerably used in dropsies; and the juice of the berries may be pressed out and simmered to the consistence of sirup, making a valuable laxative Alterative, in doses of 1 oz., or thereabout.

5. Black Cohosh, or Macrotys.—This article is not only used as an Alterative, but is also a valuable article in RHEUMATISM, which see, and female complaints, where any obstructions are present. The saturated tincture is used (*i. e.*, when more of the root is put into alcohol than the alcohol will take up—as strong as it can be made).

DOSE.—The ordinary dose would be about $\frac{1}{2}$ tea-spoonful 4 to 5 times daily. King claims that in doses of 10 drops, every 2 hours, gradually increased to 40 or 60 drops or until its action on the brain is observed, and continued for several days, will almost always cure acute rheumatism, permanently, especially if it is the first attack. He recommended its use as early as 1844.

6. Iodide of Potassium.—This remedy is decidedly Alterative, and is extensively used by nearly all classes of physicians, in scrofula, syphilis, diseased skin, and all diseases requiring an Alterative. Scudder says in doses of 2 to 4 grs. 4 times daily, it improves the appetite and digestion, and is a *specific* antidote for the poison of lead.

DOSE.—To obtain its *full* Alterative effects, he says, is from 10 to 20 grs. in a water solution, or combined with Alterative sirups or decoctions. I should not give a dose above 10 grs. 4 times daily, unless under the direction and watchfulness of a physician. This is especially useful in goitre—bronchocele—an enlargement of the glands of the neck, both as a wash and internally. Pierse says that iodine alone, will absolutely cure this disease. It is also used in all scrofulous sores, eruptions, chronic sore-eyes, syphilitic affections, especially mercurio-syphilitic sore-throat, swelled breasts, enlarged liver, and most female complaints as suppression of the menses (amenorrhœa), female weakness, or whites, (leucorrhœa), and in all cases where mercury has left its effects upon the system, etc.

7. Sirup of Iodide of Iron.—This Alterative and tonic is especially adapted to feeble and delicate persons.

DOSE.—Is $\frac{1}{2}$ tea-spoonful 4 times daily, in a little water, being careful that it does not touch the teeth, or if it does, wash the mouth with the TOOTH POWDER directly, as the iron darkens the teeth very quickly. But this sirup had always better be bought of the druggist, as it is a very particular sirup to make.

8. Indian Alterative Sirup.—"Some thirty years since, a half-breed Indian, called Ben Smith, in the State of New York, made a sirup, which gained considerable reputation as a remedy in syphilitic diseases, and which sold rapidly for \$3 per bottle; the following is the formula, or receipt, for its preparation: Take Indian hemp, Virginia

sarsaparilla, inner bark of white pine, of each, 1 lb.; mezereon (kept by druggists), 4 ozs.; sheep laurel, $\frac{1}{2}$ lb.; water, 4 gals.; white sugar, 8 lbs.; nitric acid, 40 drops to each qt., and tartar emetic, 20 grs. to each qt. Place the plants in the water, boil for a few minutes; then gradually evaporate, until about 2 gals. of decoction are left, then strain, and add the sugar. To each qt. bottle of this sirup he added the 40 drops of nitric acid, and 20 grs. of tartar emetic, dissolved in a sufficient quantity of spirits.

"Dose.—A wine-glassful 3 times a day. I have never been able to ascertain the true botanical character of the Virginia sarsaparilla. This sirup has been found as efficacious in syphilis, when prepared without the tartar emetic."—*King*.

If this sirup is so valuable in syphilitic complaints, which requires the most decided Alternatives, it would certainly be found very valuable in any disease requiring an Alternative.

Alternative Sirup.—The following Alternative Sirup was originated by Prof. Edwin Freeman, of the Eclectic Medical Institute, of Cincinnati, and published in the *Eclectic Medical Journal*, and will be found very valuable for scrofula and disordered conditions of the system arising, or resulting from it; and, in fact, for a general Alternative. He says:

Take figwort root, $\frac{1}{2}$ 2 lbs.; blue flag, bayberry, and queen's root, the roots of each, and of each, $1\frac{1}{2}$ lbs.; burdock root, and butternut, inner bark of the root, of each, 1 lb.; mandrake root, $\frac{1}{2}$ lb.; coriander seed, and prickly-ash berries, of each, 6 ozs.; dilute alcohol, 1 gal.; sugar, 10 lbs.; best whisky, 2 qts. His directions and remarks are as follows:

Extract with the dilute alcohol and then with water from the first 7 articles. Evaporate down to $2\frac{1}{2}$ galls., and add the sugar, the coriander seeds and prickly-ash berries. Boil for five minutes, strain and add the whisky. I had this sirup made by T. L. A. Greve, druggist, for a particularly bad case. Its good effect was at once perceived and marked, restoring the patient. I have since used it in a large number of cases with the same excellent effect. Other physicians on my recommendation have used it, and attest to the value of the combination. In selecting the articles I chose those whose specific effects upon certain functions were well known and established, and endeavored to combine them—so that the entire glandular system might be reached. Its value is very great in certain chronic functional derangements of the liver. In ague that resists other remedies, I have combined this with quinine with the best effect, accomplishing the cure of my patient. If remedies have

†This plant is a native of Europe, and grows also in various parts of the United States, in woods, hedges, damp copses, and banks, flowering, a dark purple, from July to Oct., the Scrofularia Marilandica and Scrofularia Lanceolata, or the Carpenter's Square, Healall, or Square Stalk, are varieties possessing similar properties. The leaves and roots are the parts used, and yield their strength to water or alcohol, or to lard, as an ointment. It is Alternative, Diuretic, and Anodyne; highly useful in diseases of the liver and skin, scrofula, dropsy, as it is a general deobstruent to the glandular system when used in infusion or sirup, i. e. it removes obstructions, and opens the natural passage of the fluids, and secretions of the body, or, in other words it is *aperient*, (from the Latin *aperire*, to uncover, or open, from *ab* and *parire*, to bring forth, or produce, being gently opening, or laxative). Externally, as a fomentation or ointment, it is valuable in bruises, inflammation of the breasts, ring-worm, boils, painful swellings, itch, and other eruptions of the skin. The root in decoction, drank freely, is said to restore the lochial discharge, when suppressed, and to relieve the pains attending difficult menstruation. Dose of the infusion, or sirup, made from this alone, 2 to 4 fluid ozs.—*King*.

specific effects, and I believe that the most of them have, although we may not always use them properly, I can see the propriety of combining a number together as in this sirup, that all the organs may be properly aroused to their work and assist in the restoration to health. The human body is a complex organism, and the action of each organ is different from the others, yet the complete structure is sustained by the harmonious and simultaneous operations of all the parts. The food which we eat contains all the elements of nutrition for the tissues, and each goes to its proper place. If, however, we know that any thing is wanting, as iron, lime, soda, phosphorus, etc., we may reasonably supply it. But in very many cases we have not arrived at that degree of knowledge or skill that we can determine it to a certainty, and the disease seems to be an accumulation of slight derangements, one depending on another, which no one remedy will reach. We do not, neither can we expect to effect a restoration speedily as in acute disease, but it has to be done little by little, hour by hour, and day by day, by a slow and gradual process, just as the tissues are nourished.

Besides the Alteratives before mentioned, the ordinary roots and barks known to nurses to possess such properties, can be made into teas, or beers in the Spring of the year, and drank freely for a month or two will have decided effects in changing the action of the system, and improving the general health—and the *cathartics* and *diuretics* have also more or less Alterative action upon the system, when used according to indications, by failing health. It is always best not to let any disease get firmly established before anything is done; but take them when health *begins* to fail, and it will take *less* medicine, and less *powerful* medicine, to turn again, the tide of health into the correct channels.

9. Sulphur and Cream of Tartar.—Although, perhaps, these articles are not properly considered Alteratives, yet, sulphur is so credited, and is also laxative, while the bitartrate of potash—cream of tartar—is diuretic and laxative; and the combination, in my estimation, at least, is decidedly Alterative and corrective of various difficulties which may arise, especially in the Spring, from a kind of sameness of diet, and house confinement through the Winter, of delicate persons and children; and hence, I look upon the mixture with a very favorable eye, and believe it has, and if properly used, will prevent many permanent diseases that would otherwise arise.

Dose.—The mixture is generally made with twice as much cream of tartar as sulphur; then mixed with common molasses or sirup, and taken for 3 or 4 mornings in succession, in tea-spoonful doses for children and weak persons, and stout adults twice as much; then skip the same time, and take it up again. I do not believe that we have two articles with which as much can be done to prevent disease as with this combination. Their use may generally be continued until the general health is decidedly improved.

10. Alterative and Tonic.—Fluid ex. of gentian, and fl. ex. of quassia, of each, 8 ozs.; iodide of potash, 1 oz. Dissolve and mix. Dose.—A table-spoonful, 4 times daily, in a little water after each meal and at bed time. Used in syphilitic complaints, with the iodide of this strength. In any of the common diseases requiring an Alterative Tonic, half the amount of iodide only is used—the dose the same.

11. **Another.**—Fluid ex. of sarsaparilla, 1 pt.; iodide of potash, $\frac{1}{2}$ oz. Dissolve and mix. Dose.—One tea-spoonful, after each meal and at bed time. The same may be done with the fl. ex. of stillingia, or any one of the Alterative articles mentioned above, or with a mixture of 4 ozs. each, of any 4 of them, should any one prefer to purchase these extracts of the druggists, to making the sirups themselves, using the iodide, $\frac{1}{2}$ oz. to the mixture, as 4 times 4 ozs. make 1 pt. Dose.—The same as for the single articles.

ANTISPASMODICS.—Any article that will counteract, or allay spasm after it has commenced, is called an Antispasmodic; and as spasm depends upon some irritation of the nerves, whatever will remove the irritation or relax the system so that the irritation is not felt, will be just the thing to use. Spasm may arise from the irritation of the stomach, from over-eating, especially with children, in time of green fruit, etc.; then an emetic should at once be administered; also from worms, teething, etc.; but the probability is that, no matter from what it may arise, as good an article as can be first given will be the following:

1. **Antispasmodic Tincture.**—Made by using equal parts of the tinctures of lobelia, capsicum (cayenne), and skunk cabbage root; or make it directly by using, of each of the articles in powder, above named, 2 ozs., and alcohol, 1 qt., and make by maceration and displacement—which see—or let a druggist do it for you.

Dose.—For a child 2 years old, $\frac{1}{2}$ of a tea-spoonful in sweetened water and give every 10 minutes until the spasm ceases; and if the mouth can not be opened, open the lips and pass it through an open space from the absence of teeth; and if it can not be done in this way, put 1 tea-spoonful to $\frac{1}{2}$ a tea-cupful of warm water and inject, and repeat in 20 minutes if not relieved. King says it should be in the hands of every physician. I say it should be in the hands of every family, as well as physician. He says in hysteria, convulsions, and tetanus, or locked-jaw, in which swallowing is difficult, it may be poured into the corner of the mouth, and repeated as often as necessary; it will find its way into the stomach—generally the effect is almost instantaneous. He also says that, “in rigidity of the os uteri (mouth of the womb), a tea-spoonful administered by mouth, or by enema (injection) into the rectum, and repeated in 15 or 20 minutes, will be found to produce a state of softness and dilatability without the necessity of using the lancet, so highly recommended by a certain class of practitioners, in such cases.”

2. **Gelseminum** (Yellow Gesamine) is a powerful Antispasmodic, and relaxant, but requires to be used with care. Scudder uses it also to prevent spasms. If he sees twitching of the mouth and fingers, or extreme restlessness and contraction of the face, in children, he gives 10 drops of the tincture every 2 hours, for a child of 2 years, feeling confident of speedy and certain relief. It may be used for the relief of actual convulsions, or spasms, in the same dose, and repeated in 20 to 30 minutes, if necessary. It is a decided febrifuge, (to remove fever) as well as Antispasmodic, and is extensively used in fevers, especially in cases of great restlessness, and tendency of blood to the head; but this will be explained under that head. The *specific*, or positive action of the article, if given until its full effects are experienced, is a clouded and double vision, and complete prostration, with inability to open the eyes, which, however, pass off,

in a few hours, if its use is dropped off, as it shall be, if these symptoms ever arise. It is believed that this article has more complete control over the nervous system, removing nervous irritability better than any other article, and is recommended in neuralgia, nervous headache, toothache, and locked-jaw, or tetanus; and in the last, as positively certain.

3. High Cranberry (*viburnum opulus*).—The bark of the high cranberry, King says, is a powerful Antispasmodic, and, in consequence of this property, it is more generally known among American practitioners by the name of *cramp-bark*. It is very effective in relaxing cramps and spasms of all kinds, as asthma, hysteria, cramps of the limbs, or other parts in females, especially during pregnancy, and it is said to be highly beneficial to those who are subject to convulsions during pregnancy, or at the times of parturition (child birth), preventing the attacks entirely, if used daily for the last two months of gestation (pregnancy). The following forms an excellent preparation for the relief of these, or any other spasmodic attacks:

High cranberry bark, 2 ozs.; scullcap, the herb or leaves, 1 oz.; and skunk cabbage, the root, 1 oz.; cloves, $\frac{1}{2}$ oz.; and capsicum, $\frac{1}{2}$ oz.; sherry, native, or home-made wine, 2 qts.

Bruise all the articles and place them in the wine for 2 weeks.

Dose.—From 1 to 2 ozs. 3 or 4 times daily.

4. The Scullop is the (*scutellaria lateriflora*) and the skunk cabbage is the (*symplocarpus foetida*) of botanists, and both are powerfully Antispasmodic, and the first is also tonic and nervine, the last also expectorant, making with the aromatics a very valuable Antispasmodic especially for the cases referred to.

5. Assafoetida is also possessed of Antispasmodic properties, quieting nervous irritability, stimulating the stomach and bowels, and also relieving flatulence and pain. It is used in the nervous spasmodic diseases of women, and hysteria, infantile convulsions, croup, whooping-cough, flatulent colic, chronic catarrh, and with morphine and quinine, in sick, or nervous headache; and in profuse or painful menstruation.

Dose.—In pill, 5 to 10 grs., and tincture, 30 drops to $1\frac{1}{2}$ tea-spoonfuls, repeated as may be necessary, children in proportion to age. It is not used in inflammations, where spasms arise, in children, from the presence of worms, as soon as the spasms are relieved, vermifuges, or worm remedies must be given.

6. Warm Bath.—In case of convulsions, or fits, more especially in children, while any other remedies, at hand are being used, do not overlook the great importance of a warm bath, because it is mentioned last, but make all possible haste to have sufficient hot water to nearly cover the little patient; and, if an adult, for the feet, and mustard plasters to feet, arms, and legs, in either case, etc., and keep them in the bath 15 to 20 minutes at least, 30 minutes are still better, then take right into a warm blanket; and cold water, or wet cold cloths to the head will be valuable also; and warm water injections if no other Antispasmodic is at hand.

ASTRINGENTS.—Astringents are such medicines as will not only astringe, or contract the different organs, or vessels with which they come in contact, but are also strengthening to these parts, giving a healthy tone to the general system; although there are articles sometimes used in outward applications, as in cuts, etc., that have a

tendency to destroy the immediate parts that they come in contact with, as the acids, etc., but the general understanding is, such articles as relieve diarrhea, dysentery, mucus discharges, hemorrhages, or bleedings, etc.

2. Tannic Acid.—Tannic Acid is made from the nut galls of commerce, but it is contained in nearly all of the Astringent vegetables that we have. It is valuable in diarrhea, and hemorrhages from the stomach, bowels, lungs, etc., where the bleedings are not of a very free character.

"Dose.—From $\frac{1}{2}$ to 5 grs., repeated in $\frac{1}{2}$ an hour to an hour or two. It has been used in collapsed stages of Asiatic cholera, in doses of 10 to 15 grs., and repeated every 15 minutes until the discharges ceased; then less often, with other appropriate treatment to strengthen the patient. A solution of it with glycerine is a powerful styptic."—*King*.

3. Gallic Acid.—Gallic acid is not as good an Astringent for local applications as the tannic, but is considered better than the other, from the fact that it is more easily dissolved by the fluids of the system, and thus has a more decided effect upon internal bleedings; for, in fact tannic acid is converted into gallic, in the system. Seudder considers this one of our best remedies in hemorrhages; but of no value in diarrhea. It does not produce costiveness like the tannic. It is valuable in bleeding from the uterus, lungs, and kidneys.

Dose.—From 5 to 15 grs. 3, 4, or 5 times daily, according to the severity of the hemorrhages—it is not used in diarrhea.

4. Oak Bark.—The bark of the white oak is a powerful Astringent—other species are more or less so, but this is the best,—it is also antiseptic (preventing putrescency, or decay, rotting, of the food). It is useful in chronic diarrhea, chronic mucus discharges, as in catarrh, etc., and in slight hemorrhages; and wherever an astringent is needed.

Dose.—Take the inner bark and tare it to pieces and put a small handful of it into $\frac{1}{2}$ pt. of boiling water, with a tea-spoonful of ginger or all-spice, or any aromatic, as cinnamon, etc., as preferred; and when cold 2 to 3 table-spoonfuls every 1 or 2 hours. It is, however, more generally used as a gargle in cases where the palate is elongated and touches the back part of the tongue, sore-throat, etc.; and as an astringent lotion for ulcers, with granulations; and for injections in leucorrhœa, and as a wash and injection in falling of the ani, as in piles, etc., etc.

5. Tincture of Catechu.—Tincture of Catechu will be found useful in chronic diarrhea, and dysentery. It is found in the drug stores already prepared; but if it has become like jelly, at all, it is too old for use.

Dose.—A tea-spoonful in some gum or elm mucilage, or sweetened water.

6. Cranesbill.—Also known as spotted-geranium, wild-cranesbill, crowfoot, alum-root, etc., is a powerful Astringent—used by infusing in milk, in dysentery, diarrhea, and cholera infantum; and wherever an Astringent is needed, externally, or internally, as in bleedings, indolent ulcers, sore-mouth, sore-eyes, whites, as an injection, gleet, bloody urine, menorrhagia, (excessive flow of the menses); diabetes; and all considerable discharges of mucus, as in catarrh, etc.

"Piles are said to be cured by adding of the powdered root, 2 ozs. to tobacco ointment, 7 ozs., and applying to the parts 3 or 4 times daily."

King.

7. Blackberry Root and Red Raspberry Leaves.—The root of the blackberry made into tea, sirup, or cordial forms a mild Astringent, even for adults, and the wine, sirup, or cordial made from the berries are also valuable in diarrhea, dysentery, cholera infantum, or relaxed condition of the bowels; and in slight bleedings; and the decoction, or tea makes a valuable injection in any case where an Astringent is needed, made from the root. Raspberry leaves in decoction with cream, allays nausea and vomiting. The sirup made from the blackberries, is especially valuable in the griping pains attendant upon dysentery—so would be the wine; but the sirup is undoubtedly the best. The fruit of the raspberry makes a jam or sirup, that is valuable as a drink in fevers, and until they gain full strength; and the blackberries, the same in all cases of disease where an Astringent is needed, as above mentioned. See BLACKBERRY WINE, CORDIAL, or SIRUP, ETC.

8. Astringent Cordial, or Neutralizing Cordial.—A very valuable Astringent cathartic for diarrhea, and for general derangement of the stomach and bowels, is made by taking of the best rheubarb, peppermint herb, and bi-carbonate of potash, of each, 2½ ozs.; oils of cinnamon and erigeron, (common names, flea-bane, colt's-tail, horse-weed, pride-weed, butter-weed, etc.), of each, 1 dr.; alcohol, ½ pt.; water, 1 qt.; loaf sugar, 2 lbs.

Bruise the rheubarb and peppermint and steep in the water, and strain through a stout piece of muslin to allow pressing out all the fluid, and it might be well, after having pressed out all you can, to open the cloth and put on as much boiling water as will make up for evaporation and what will be retained in the dampness, and press out again; then dissolve the bi-carbonate in the fluid, and put in the sugar and dissolve by heat to form the cordial or sirup; then, having added the oils to the alcohol add it to the cordial. This should be kept in every house, whether there are children or not, as it is as valuable for adults as for children.

DOSE.—For adults, 1 table-spoonful, child 3 years old, 1 tea-spoonful, in all irregularities of the bowels, and repeated every hour until the stools become dark, then the dose may be lessened, until regular. The 3 first articles named above, it will be seen, under the head of CATHARTICS, makes a valuable regulating physic.

It will be observed that the treatment of the diseases of persons, has gone before the introduction of any Miscellaneous Receipts. This arrangement will be followed through the Work, under all of the different letters of the Alphabet.

A. MISCELLANEOUS RECEIPTS. A.

ANTS—To Destroy.—A correspondent of the Philadelphia Ledger says:

"Take a large sponge, wash it well, press it very dry; by so doing it will leave the small cells open—lay it on the shelf where they are most troublesome, sprinkle some fine white sugar on the sponge, lightly over it. Two or three times a day, take a bucket of boiling water to where the sponge is, carefully drop the sponge in the scalding water, and you will slay them by thousands, and soon rid the

house of those troublesome insects. When you squeeze the sponge in water you will be astonished at the number that had gone into the cells."

APPLE BUTTER—To make with Cider.—Have a large brass kettle, nicely cleaned by putting in a little vinegar and salt, rubbing it about well, then washing out and wiping dry with a piece of flannel. Fill the kettle with new cider, made from sweet apples, that has not began to work or ferment; and as it begins to boil, skim well, and skim every time that additional cider is put in as it again begins to boil. If the kettle will hold about 30 gals. $1\frac{1}{2}$ barrels of cider can be boiled into it. When the cider is all in that you design to make; the apples having been pared, quartered, and cored—sweet apples are the best—at the rate of $1\frac{1}{2}$ bushels for 1 barrel of cider, dip out sufficient to allow putting in the apples and continue the boiling until the cider is all in. And from the time that the apples and cider are all in, let the boiling be slow, and the stirring constant, until there is only 10 gals. at most.

To stir the apple butter while making, it is best to take a board 2 or 3 inches wide and bore an inch hole through one end of it, and round off the other end to fit the bottom of the kettle—the hole being bored so as to allow a handle to pass over the top of the kettle while the lower end stands upon the bottom, which will enable one to stand back 3 or 4 feet or more from the fire; for unless the stirrer is kept moving about over the bottom the butter will burn and be spoiled; but if care is taken it will be very nice. Dip, while hot, into stone jars; and when cold, cut white paper covers just to fit in the jar, right down onto the butter itself; and wet these papers in whiskey before putting them in, and the work is complete.

I have always been very fond of what my folks call "cider apple sauce," i. e., boiled cider, 3 barrels to 1, kept for the purpose; then as needed, simply stew the apples in the cider, not enough to dissolve the apples; but leaving the quarters whole—it is very nice. And the boiled cider kept in this way makes an excellent addition to mince pies, and for cider cake, etc., etc., and with cool water added, in Spring or Summer, in fevers, it makes a palatable drink.

2. Apple Butter Without Apples.—S. Miller, Bluffton, Missouri, writes to the *Western Pomologist and Gardener*, that grapes are a drug in the market, and that wine is too cheap to pay for making. So, what does the S. M. aforesaid do but press his grapes, boil down the juice to $\frac{1}{2}$, and then slice in peaches. Just think of it, grape-juice and peaches! He says it is "good to spread on bread." We know that he has good bread to spread it on, for we have been at his ranch.

3. Pumpkin Butter.—I remember having spent the Winter on the Maumee river, some 40 years ago, and all the sauce we had was "pumpkin butter." It was made by first boiling unpeeled pumpkin, with sufficient water to start with, then expressing the juice and boiling down to the consistence of boiled cider, then adding nicely peeled pumpkin, cut into small pieces, and stirring, and boiling down to a proper thickness—quite thick—as for apple butter, above. I thought then it was very nice, and I think it still would be, in places where cider and apples could not be got, as they could not there, at that time. The cooler these are kept, and the more they are kept from the air the less likely are they to work, or sour.

Although it was my purpose to keep up an alphabetical arrange-

ment in this Work, when things seem to belong together, like these "butters," I will deviate from the original intention, as I have in this case.

4. Apples Spiced.—Take nice tart apples, pared and cored, 8 lbs.; sugar, 3½ lbs.; vinegar, 1 qt.; cinnamon, bark, unground, 1 oz.; cloves, unground, ½ oz. Boil the sugar, vinegar, and spices together; put in the apples when boiling, and let them remain until tender, about 20 minutes. Take them out, and put them in a jar. Boil down the sirup until it is thick, and pour it over.

5. Apple Parings—Dried for Jelly.—"Wherever and whenever apples are scarce, it is good economy to dry the nice parings, especially of fine Fall apples, as thus dried they will make good apple-jelly in Winter. I have tried it myself, and I can fancy that the richly elaborated juices so close to the sunshine under the crimson and gold surface are more suitable for jellies than other parts of the apple, as we know it to be so in the quince. The parings dry nicely laid in plates under the cooking stove for the first day, then in the sunshine. Keep in paper bags. The parings of russets are generally bitter."

So says some one in some paper. And as we used to make jelly of green apple parings, when in Minnesota, and apples were worth \$12 per barrel, using it for jelly cake, I can fully endorse the idea of saving them, by drying, where fruit is scarce. It is very delicious.

AQUA AMMONIA—Its Domestic Uses.—A "Housekeeper" in the *Michigan Farmer*, says: "For washing paint, put a table-spoonful in a quart of moderately hot water, dip in a flannel cloth, and with this merely wipe over the wood-work; no scrubbing will be necessary. For taking grease spots from any fabric, use the ammonia nearly pure, and then lay white blotting-paper over the spot and iron it lightly. In washing laces, put 12 drops in a little warm suds. To clean silver, mix 2 tea-spoonfuls of ammonia in a quart of hot soap-suds, put in your silver and wash it, using an old nail-brush or tooth-brush for the purpose. For cleaning hair-brushes, etc., simply shake the brushes up and down in a mixture of 1 tea-spoonful of ammonia to 1 pint of hot water; when they are cleaned, rinse them in cold water and stand them in the wind or in a hot place to dry. For washing finger marks from looking-glasses or windows, put a few drops of ammonia on a moist rag and make quick work of it. If you wish your house-plants to flourish, put a few drops of the spirits in every pint of water used in watering. A tea-spoonful in a basin of cold water will add much to the refreshing effects of a bath, and for those who have a sour, or sweat-smell, it will be an absolute remedy, for some considerable time. Nothing is better than an ammonia-water for cleansing the hair. In every case, rinse off the ammonia with pure water."

2. Ammonia in Snake Bites.—It is reported that in India and Burmah, that there are over 8,000 persons die annually from the bites of poisonous snakes. In over 900 cases, reported by an English surgeon, Aqua Ammonia was administered, internally, and over 700 of them recovered, although the average time which had elapsed, after the bite, before it was given, was 3½ hours; and in those who died, 4½. So that even after 3 hours from the bite, reasonable hope might be had of saving the patient.

Dose.—It may be given in doses of 5 to 30 drops, well diluted with water.

ARTICHOCKES—As Food for Stock—The plant known as the Jerusalem Artichoke, is a species of the sun-flower; but bears a tuber, or root which is very nutritious, and cattle and hogs are very fond of them. They grow abundantly, and are preferred by cattle and hogs to potatoes; and as they contain as much nitrogen as potatoes, and in a different form, being starch in the potatoe, and sugar in the Artichoke, so that the frost does not injure them as it does the potatoe, makes them valuable to raise for stock. They are hard to get out of the ground, however, when once started. They will grow in poor soil, where potatoes would not do well.

AXLE, OR LUBRICATING GREASE.—The *Scientific American* informs us that the following compound was patented in England, and, that with 25 parts of black-lead mixed with it makes a good axle grease for carts and carriages:

1. Tallow, 252 parts; oil, 333; soda, 14; potash, 12; and water, 389 parts, pounds, grains, ounces, or whatever weight shall be taken. The potash and soda are first dissolved in the water; and the tallow and oil mixed and kneaded to thoroughly incorporate. It can be made in small quantities for one's own use; or in large quantities, and boxed for sale.

2. **Another.**—Fine black-lead, 1 lb.; lard, 4 lbs. Grind the two articles together on a painter's stone, or else rub them thoroughly together with a spatula, upon a smooth board.

3. Booth's axle grease, patent expired, consists of common soda, $\frac{1}{2}$ lb.; tallow, 3 lbs., and palm-oil, 6 lbs., or if you prefer, palm-oil, 10 lbs. with no tallow; water, 1 gal. Heat to 200° or 210° Fah.; and mix by constantly stirring; then remove from the fire and stir until cool, to prevent any separation of the articles.

4. A thin composition is made with the same amount of soda and water, with rape-oil, 1 gal.; and tallow, or palm-oil, $\frac{1}{2}$ lb.; mixed by heat. The rape plant belongs to the cabbage tribe, but has a root and seed like the turnip. The oil is made from the seed.

5. For carriages having a nicely turned bearing, or axle, in warm weather, there is probably nothing better than castor-oil alone; and for Winter, castor-oil mixed with about an equal amount of petroleum oil, which prevents the thickening of the castor-oil. This last also makes a valuable lubricating oil for shafting journals.

BATHING.—There is no simple and so easily to be accomplished thing which can be done to the human system, that is of so great an importance as that of *regular Bathing*; and, yet, there is, probably, nothing so greatly neglected. There are some persons whom I know, that scarcely ever, even wash themselves, except their face and hands, that they may "*appear unto others*" to be clean, who, notwithstanding this neglect of Bathing, enjoy a passible degree of health. What does this prove? Simply nothing! For, if they may enjoy a fair degree of health for 50 years, *neglecting* bodily cleanliness, *with it*, I fully believe they might reach 70 to 80 years of healthful life.

The utility, or rather the necessity, of Bathing frequently can not be doubted. It would be difficult to convey in a limited space, a sufficiently complete idea of this most powerful means of preserving and restoring health. No wonder the ancients, and especially the Romans, carried the practice of Bathing to such an extent! Why it should have fallen into such disuse in modern times it is difficult to determine; and the more so, as it is such an agreeable remedy and

preventive of disease, by lessening and regulating the heat of the body, and the circulation of blood, tranquilizing the irritability of the nervous system, and especially by cleansing the skin, thereby removing a primary source of disease. It invigorates the whole system, and to an increase of bodily strength it adds exhilaration, and a delightful serenity and cheerfulness of mind.

I have only to refer to the elementary teachings of physiology for a knowledge of the uses of water in the animal economy. It enters the blood-vessels, both by being absorbed from the mucous membrane lining the digestive passages when taken as a drink, and by permeating the skin in Baths. Happily there is no dissension to the fact of the great benefit arising from the use of water in the form of Baths. This is a point on which even doctors do not disagree, all conceding their efficacy in promoting and maintaining health. It can not be doubted that a regular and judicious use of the Bath is a preventive of many diseases; that they have cured many diseases is well known, and it is highly probable that many forms of serious and distressing sickness, with which many persons are afflicted during a long course of years, would be almost unknown among us, and the pain from incurable diseases greatly mitigated, were Baths in general use. There would be less suffering, more cheerfulness and vivacity, greater length of days, and a more complete enjoyment of existence.

It is because the body is neglected that it does not better resist the morbid actions of external agents, and becomes diseased. Like a complicated machine, which, if exposed, soon becomes clogged with dust, and thus compelled to discontinue its movements unless constantly guarded against impediments, the human body needs constant attention—much more than a mere artificial machine—since of all organized structures it is by far the most complicated.

Bathing has been declared to be a law imposed by nature on all perspirable creatures. Yet among the masses, Bathing is notoriously uncommon, both in the United States and in Great Britain—far more so even than in some of the less enlightened portions of continental Europe. It is but a few years since Dr. Comb, writing of England, said: "We are far behind our continental neighbors in this respect—they justly consider the Bath a necessity, we still regard it as a luxury. I believe that in one hospital in Paris a greater number of Baths have been administered to the poor during the last year than to the whole working population of Great Britain during the last ten years." Since this was written, however, measures have been instituted in London, Liverpool, and other cities, which neutralized in a great degree, the force of the stricture implied in the last sentence. Though he adds that "Baths are to be found in fifty places now where there was one twenty years ago."

A recent English traveler in America writes: "In fact, I have found it more difficult in traveling in the United States to procure a liberal supply of water at all times of the day and night in my bed chamber, than to obtain any other necessity. A supply for washing the face and hands once a day is all that is thought requisite." Doubtless he was not aware of the severe strictures of a fellow-countryman, who in his advocacy of cleanliness, thus speaks of the prevalent habits of his own countrymen: "Some disgusting economist of both time and water reduced ablution to a habit of washing the hands and face, leaving the clothing to hide whatever dust might accumulate on

the rest of the body; and as though enamored of its ingenuity, their descendants have never abandoned the same filthy and unwholesome practice.

We may well ask why the people of the United States should deprive themselves of the admirable appliances, on the score of both health and enjoyment, to which all classes in many other countries, and in opposite climates, have ready recourse.

In Russia the Bath is general, from the Emperor to the poorest serf, and through all Finland, Lapland, Sweden, and Norway, no hut is so destitute as not to have its family Bath.

Equally general is the Bath in Turkey, Egypt, and Persia, among all classes, from the Pasha down to the poor camel driver.

The question of the utility of Bathing as a hygienic (healthy) measure might be supposed to be placed beyond all controversy by the example of so many people in all ages of the world, and in the greatest variety and contrast of climates. Physiology gives also its confirmation of the necessity of Bathing, and to it I shall appeal by a brief statement of the structure and functions of the skin and of its intimate relations with the chief organs and tissues of the body.

The skin, the external tegument of the body, is principally the seat of the sense of touch; through its sensibility we are apprised of the temperature, density, and other properties of substances with which we come in contact; through this medium the brain is actively and constantly impressed by connecting nerves, and is, of course, not a little dependent on the force and extent of these impressions. The function of the skin is essential in keeping up the nutrition of the body. It absorbs fluids and gases, and holds or gives off the same; it is an auxiliary of respiration and the regulation of animal heat. So necessary is this function to the maintenance of life and health, that if it be interrupted, as by covering the body with an *impervious coat of varnish*, retaining the matter excreted through its pores, and preventing the introduction of material absorbed, the animal dies very soon.

The skin consists of two layers—the dermis, (from the French *derme* the skin,) or true skin, and the external layer, the epidermis, or cuticle, also called the scarf-skin. The dermis, or true skin, consists of dense elastic tissue, with the numerous openings for the transmission of blood-vessels and nerves from its under surface, and of an intricate web-work of minute blood-vessels, sensory nerves, and lymphatic, or absorbent vessels, distributed over its upper surface. It also contains in its substance, the sebaceous follicles, or oil-forming glands; and the sudoriferous or sweat glands that lie beneath it, send their ducts up through it, as seen in FIG. 14. From these latter glands is constantly secreted the watery and saline fluid of perspiration.

The following minute estimates by Wilson in his "Treatise on Heat and Skin," are curious and interesting, and show the importance of the office of the skin in maintaining health:

"Taken separately, the little perspiratory tube with its appendant gland, is calculated to awaken in the mind a very little idea of the importance of the system to which it belongs: but when the vast numbers of similar organs composing this system are considered, we are led to form some notion, however imperfect, of their probable influence on the health and comfort of the individual. I use the words 'imperfect notion' advisedly, for the reality surpasses imagination, and

also belief. To arrive at something like an estimate of the value of the perspiratory system in relation to the rest of the organism, I counted the perspiratory pores on the palm of the hand, and found 3,528 in a square inch. Now, each of these pores being the aperture of a little tube about a quarter of an inch long, it follows that in a square inch of skin on the palm of the hand there exists a length of tube equal to 882 inches, or $73\frac{1}{4}$ feet. Surely such an amount of drainage as 73 feet in every square inch of the skin—assuming this to be the average of the whole body—is something wonderful, and the thought naturally intrudes itself—what if this drainage was obstructed? Could we need a stronger argument for enforcing the necessity of attention to the skin?

FIG. 14.



THE SKIN WITH
ITS SUDORIFEROUS,
OR SWEAT GLANDS,
DUCT, &c.

Magnified 30 diameters.

a, convolutions of duct beneath the skin; b, b, under surface of the skin; c, c, fatty tissue; e, the duct; d, its opening on the surface. The three layers of which the skin is composed, are shown.

"On the pulps of the fingers, where the ridges of the sensitive layer of the true skin are somewhat finer than in the palm, the number of pores on a square inch exceeds that of the palm, and on the heel the pores are less in number, there being only about 2,268 in a square inch. To obtain an estimate of the total length of the tube of the perspiratory system of the whole surface of the body, I think that 2,800 might be taken as a fair average of the number of pores in the square inch, and 700, consequently, of the number of inches in length. Now, the number of square inches of surface in a man of ordinary height and bulk is 2,500; the number of pores, therefore, 7,000,000, and the number of inches of perspiratory tube 1,750,000; that is, 154,833 feet, or 48,000 yards, or nearly 28 miles to each individual!"

The sebaceous, or oil-forming glands, which are included in the above calculation of Wilson, are small oblong bodies closely resembling the perspiratory glands, and sometimes they are short, straight follicles or pouches seated in the substance of the skin. Their excretory ducts open into a hair follicle. These sebaceous (from the Latin *sebum*, tallow, having reference to the oily secretions of the sebaceous glands) tubes are frequently the seat of a curious parasite, or animalcule which are often found in great numbers in those persons whose skin is torpid in its functions. They are found in all ages, and in remarkable numbers during sickness.

As has been said, the skin both absorbs material essential to the process of nutrition, and eliminates (throws off) waste and effete matter, which, if retained, would cause disease. The fluid secreted as perspiration is commonly so gradually formed that the watery portion escapes in vapor on coming to the surface, and is then called *insensible* perspiration, the oily portion remaining upon the surface, giving it softness and pliability, in health. But during severe exercise, or in warm or damp atmosphere, and in some forms of disease, the fluid collects in drops on the skin, and is then called *sensible* perspiration; and this fluid so eliminated holds in solution various salts, viz: phos-

phates of soda and lime, carbonate of lime, chloride of sodium (common salt), sulphate of soda, chloride of ammonium ("sal ammoniac"), and some potash, lactic (from *lac*, milk) and acetic acid; traces of iron and animal matter have also been found.

These estimates include the excretion from the oil-forming (sebaceous) glands, which are almost necessarily mixed with the perspiration.

The average loss by exhalation from the skin during twenty-four hours is estimated at 2½ lbs., about twice as much as by the lungs during the same time.

This discharge from the skin is less active when the digestion is impaired, and most abundant during the period of digestion, though least so immediately after food is taken.

The skin is much influenced by the functions of other organs; the organs, the functions of which most influence the skin, however, are the *kidneys*. The cutaneous and urinary excretions are reciprocally vicarious (changeable), the deficiency of one being compensated for by the other; and this not merely in regard to the amount of fluid which they carry away from the blood, but also in respect to the solid matter which they eliminate. It is said that at least 100 grains of effete, or worn-out matter are daily thrown off from the skin, and any cause which checks this excretion must increase the labor of the *kidneys*, or produce an accumulation of poisonous matter in the blood. Hence attention to the functions of the skin—which is at all times important—is peculiarly required in the treatment of diseases of the kidneys and urinary organs, and valuable in the treatment of any disease.

Much more might be said of the anatomy and physiology of the skin, and of its intimate relations through the nervous system and contiguous tissues, with the other structures of the body; but the principal object is to show the necessity of keeping the *skin clean*, and not interrupting its office, and I trust I have made plain that necessity.

If the knowledge of these facts could reach the crowd of the *unwashed*—certainly of the *unbathed*—both rich and poor, they surely ought to feel some alarm at their danger, when they reflect that their own skins must be pretty thoroughly coated, and its pores obstructed by a thick investing layer, the residue of perspirable and sebaceous, or oily secretions, mixed with detached scales of the cuticle, outer skin, dust, and other matters floating in the atmosphere, all of which have been allowed to accumulate for a term of years. And some persons who would resent the imputation of *uncleanliness*, deceive themselves into a belief that, if they overcome one odor by another—the animal by vegetable extracts and „perfumery,” they comply with the requirements of the toilet. They have yet to learn the important lesson, that no distillation, though each drop should be as costly as grains of a diamond, could avail either to cleanse or beautify without the use of water, the universal solvent for all bodily impurities. No disinfectant can take the place of *cleanliness*.

Cleanliness of body, which is next to Godliness, is in closer connection with purity of mind than is generally supposed; and both must be associated with our ideas of personal beauty and loveliness. The Grecian fiction of Venus being “ocean born,” is typical of the aid which beauty derives from frequent ablution, or Bathing.

The list of diseased conditions resulting from a suspension of the functions of the skin would make a long catalogue—their name is legion—but chiefly among these may be mentioned diseases of the throat and lungs, as catarrh, bronchitis, pneumonia, etc.; diseases of the kidneys, from imposing on them too much of the work the skin ought to do, and the various formations of "gravel," "Bright's disease," diabetes, etc.; diseases of the digestive apparatus, as dyspepsia, inflammations of the stomach and bowels, "liver complaint"—so called—rheumatism, paralysis, various forms of troublesome cutaneous diseases, and all the long list of diseased states, resulting from feeble and imperfect circulation of the blood; to restore which, by Bathing, and promote the functions of the skin is one of the common sense proceedings in the treatment of such derangements.

The most simple division of Baths in regard to temperature is cold, warm and hot. The intermediate degrees are expressed by the terms cool, temperate, and tepid, but they are of little practical value, as the construction put on these names is exceedingly various—water of 80° Fah. feeling *cool* to one and *cold* to another.

A *cold Bath* ranges in temperature from 33° Fah. to about 75°—though a Bath below 50° is very cold; the tepid and cool Baths range from 75° to about 92°; the *warm Bath* ranges from 92° to 98°, while a Bath above 98° is properly called a *hot Bath*.

The measure of good produced by a Bath can not be arbitrarily estimated by the amount of fluids absorbed or expelled. Neither do Baths operate on the system as on a piece of inorganic matter by constringing and relaxing tissues. Bathing calls into additional exercises the heart and blood-vessels, especially the capillaries (the minute blood-vessels), both of the skin and of all the internal tissues and organs. These effects are most obvious in the two extremes of the scale of temperature, viz: the *hot* and *cold* Baths; the stimulation (increase of the circulation) from the former being direct and immediate; and the sedation (lessening the circulation) from the latter, being secondary, following the reaction which should succeed the shock.

The time for taking a full Bath, either warm or cold, as a hygienic measure, or for enjoyment—when the Bather can select his own time—is when the stomach is *empty*, or nearly so, as before breakfast or before dinner. When taken as a remedial agent, of course the probable good to be derived outweighs any consideration of time. No special instructions can be given that will take the place of that judgment, essential to those who determine the choice of remedies in a given case of sickness, or of the tact and discretion necessary to a proper use of them.

The frequency of the Bath as a means of health depend on the habits, occupation, and inclination of the individual, the season of the year and the climate. Once a day is sufficiently often for all purposes in any season or climate, while once, or twice, a week may be often enough for most persons who do not have much *free* perspiration. Persons who are traveling in dusty roads, or working in dusty fields will find a daily, or rather an evening Bath absolutely essential to health, as well as cleanliness. The temperature must be accommodated to the individual.

The *cold Bath* is a powerful sedative, as must be evident when we consider its range of temperature from 75° Fah. down to the freezing

point. But few persons, and they of the most vigorous, require or can endure to use it in the thirty lower degrees of temperature.

Its primary (first) effect is that of a shock, with great depression of the circulatory and nervous systems; its secondary effect, a reaction which, in health, goes above the normal (healthy) standard, and brings a glow to the skin from the increased capillary circulation, with great exhilaration of the nervous system. Whenever a cold Bath is not succeeded by these general results, or if a *chill* follow, or the surface is left *cold*, it not only fails to produce a beneficial result, but its effect must be injurious. In the higher degrees of its temperature, and judiciously used, it is a valuable agent, and gives increased tone and vigor to all the organs and tissues. The occasion however, must be very rare when a full cold bath—i. e., by immersion—will be indicated in the treatment of acute diseases; but in the form of sponging, it is highly useful in reducing the heat of the body both in local *inflammation* and in many forms of *fever*. The practice of immersing *infants and children* in a cold Bath is not supported by reason, common sense, or physiology. The more vigorous endure it, but are not made stronger thereby; the weaker are made more weak. The cold Bath, whenever taken, should be followed by *thorough friction of the skin until a glow of heat is produced* and when practicable, by active bodily exercise. Of course the duration of the Bath must be short. The cold Bath must not be taken if protracted exercise, or labor have left the body exhausted, or if the individual is suffering from great weariness or fatigue.

The most popular form of Baths, however, both for their pleasurable and sanitary effects, those most used from choice by habitual Bathers, and most agreeable to all who resort to Baths, are those of medium temperature, or *warm Baths*.

The warm Bath causes a sensation of general warmth, which is more obvious if the body has been previously cooled, languor, diminution of muscular power, increases perspiration, and when long continued, faintness and a tendency to sleep. Even in *health*, its effect is most soothing and agreeable on both the circulatory and nervous systems, allaying excitement and calming the whole organism. Few hygienic agents are in more direct harmonious relation with the wants of the animal system than that of *regular Bathing*.

The *diseased* conditions in which the warm Bath is useful are also numerous. A few of the more important general conditions only will be named here. The *warm Bath* is found especially useful in the treatment of acute anasarca, (dropsy) or general bloating, in dropsy following scarlet fever or measles, or from disease of the kidneys, in the passage of calculi—either biliary or renal—("gall-stones," or "gravel"), by its relaxing power. In the same manner it assists in reducing dislocated bones; in inflammation of the stomach, bowels, kidneys and bladder; in eruptive and chronic skin diseases; in rheumatism, paralysis, hysteria, and the long list of infantile diseases, among which are cholera infantum, convulsions, etc.

The *hot Bath* ranging from 98° Fah. upward, is a powerful, direct stimulant, and, in its highest temperatures, should be used with caution. It causes a sense of heat, renders the pulse fuller and stronger, accelerates respiration, occasions intense redness of the skin, and subsequently copious perspiration, and finally relaxation.

It is seldom or never required when in health, and the range of

its uses as a remedial agent is far less than the warm Bath. It is principally employed in collapse, in paralysis, rheumatism, suppression of urine accompanied with great pain, gravel, cramps, bilious colic, and some forms of chronic disease.

Practically, no other classification of the temperature of Baths need be made than that which every person makes for himself, according to his sensations, *i. e.*, *warm* and *cool*—the *hot* and *cold* growing out of the extension of these, and the *temperate* and *tepid* coming between them.

The *transition* Bath, or changing suddenly from an extreme temperature, either hot, or cold, to one of an extremely opposite degree, may be much more safely indulged in than is generally supposed, especially with the precautions usually taken to avoid unpleasant results, though its *practical* use is of only comparative importance.

The *shower* Bath I need not dwell on. If the head be the part showered, it should be used with great caution, and but for a short time, especially if the water be cold—neither should the water fall from a great distance.

The *douche* Bath is simply a stream of water directed to any part of the body desired, and is an excellent way to procure a local Bath.

The *sitz*, or hip Bath, is another form of local Bath, of great value in determining blood to that part of the body—being generally used warm or hot.

There are various forms and names of local and partial Baths, unnecessary to describe in detail, as their use would be suggested both as a means of health, and in the treatment of the sick—as *sponging*, *sprinkling* and *pouring* water on the body, or on a part of it, the temperature of which, as of all local Baths, can be regulated to meet the object in view.

But it must be remembered that the *full* Bath, for most purposes, is superior to all other forms, but especially as a promoter of health, as not mere temporary contact with water, as washing, is needed, but immersion of part or all of the body, for such a length of time as is necessary to expose all parts of its surface to the cleansing and salutary influence of the water. The use of the wash-tub or bowl is not a substitute for the *Bathing-tub*, or *Rubber-Bath*, as recently brought into use. If the skin was an impervious coat like a varnished surface, it would suffice to *wash* it; but it has been shown to be a texture of considerable thickness, made up to a large extent of *excretory* and *secretory glands*, of minute *blood-vessels*, and of millions of branches of the principal *nerves of sensation*, which terminate on its external surface. And here let me impress on the reader that *water*, and *water* only, for most purposes of Bathing, constitutes the *best* Bath. Of all the various "medicated" Baths, the most valuable medicament is the *water*; some remedies held in solution may be thus absorbed and prove beneficial, but the tonic and stimulant effects of the water are most efficient.

It was not contemplated here, to attempt anything more than to awaken attention to the value of Bathing as a promoter, preserver and restorer of health. It is not to be understood that Bathing is a *cure-all*; but rather, that Bathing is simply *one* remedy in the list of curative agents, though a greatly neglected and important one; that while Bathing is a valuable auxiliary in the treatment of many cases, it may not be indicated, or may be insufficient alone, in others; that

Bathing does not directly nourish the tissues, and therefore can not take the place of tonics, either in diet or medicine, but that it acts more by helping to *restore and maintain in a healthy state* the functions of the eliminative organs, the organs that secrete, and excrete or throw off, and especially that great eliminator—the skin—and thus promote digestion and assimilation, and give nervous tranquility and a sort of equipoise, or even balancing of the whole system.

It is impracticable to enumerate all the individual cases of disease benefited by Bathing; but in addition to those previously mentioned, are those of *local inflammations, fevers, congestions, spasms, colic, torpidity and various chronic affections of the liver, kidneys and general organs of digestion, deranged menstruation, diseases of the lungs and air passages—as croup, catarrh, asthma—and many forms of skin diseases, injuries and diseases of joints, etc.*

In much general debility the Bath will not be indicated, except it be used with great care and judgement. But it will be found much safer and more beneficial than is popularly supposed, to *cool* the body when *excessively* heated by *fever*, or by *inflammation*, and as *safe*, ordinarily, to warm it when *excessively* cooled.

As a general rule, a Bath, to be efficient, should be followed by pleasurable sensations, by exhilaration and buoyancy of spirits, and by elasticity and tranquility of the nervous system, and increased force of intellect.

To convince sensible people of the value of Bathing, either as a hygienic or sanative agent, it is not necessary to enter into a detailed and lengthy statement as to how it acts as a prophylactic (preventive) remedy. Such an exhaustive consideration of the subject is not at all necessary.

I give reasons enough for Bathing when I say it promotes cleanliness; by virtue of this fact it is demanded; but I have given other reasons, also which I trust, will commend themselves to the good judgement of all who may read these pages.

"The man who induces the American people to pay more attention to Bathing, and shall succeed in making it popular, and shall place before the whole people a practical plan by which *all* may enjoy this great boon—now indulged in by the few, as a luxury—will have conferred on his age and race a real good, that will entitle him to a rank as a public benefactor and philanthropist, with the names of a Howard and a Franklin."

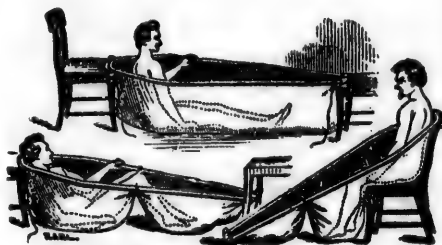
That such will be the final result of the introduction of the universal, or Rubber-Bath, by E. J. Knowlton, of our city, I fully believe.

I am aware that for many years, in the cities, and in some of the more costly houses of the country, Bathing arrangements have been fully provided for; but in very many of the *older* class of houses, no such conveniences will ever be introduced; and, hence, something like Mr. Knowlton's Rubber Bath must be introduced, if ever the *luxury*, or the *necessity* of a Bath is to be provided for; and if people wish to continue to enjoy *good* health, or to make use of the *best* means to aid in restoring health to the *sick*, the *means of taking a full Bath must be provided for in every house.*

The following *illustration* will enable any one to understand the workings, and advantages of this Bath, which is being introduced into many sections of the United States, by his agents, so that where

it has been introduced, those who have not obtained it, and have no other means provided for Bathing, can see it and judge for themselves, of its value. Those desiring it in places where it has not been already introduced, can address him for full particulars, as to the best means of obtaining it. Its advantages, in the absence of regular Bathing-

FIG. 15.



KNOWLTON'S RUBBER BATH.

great benefit. This Bath has been in use in the vicinity of this city about *five* years, so that their durability has been fully established; and I would not speak of it, if I did not know the advantages of *regular* Bathing, at least *once or twice every week*, even in health; and of the *absolute necessity of a full Bath*, as occasion demands, in many diseases.

I need not enter into any description of how to use the Bath represented by the above cut, for the reason that those who have obtained them of Mr. Knowlton, or his agents, have already received such instructions from him, and those who hereafter obtain one of him, will also be instructed in their use. The main features, or advantages of them, are: They require but a small quantity of water, as compared with other plans, to take a *full Bath*; and they are easily emptied out, and may be hung up beside the wall, or placed in a closet, not occupying more room than an ordinary garment.

Hot-Air Bath.—Such improvements have been made in the manner of administering a hot-air Bath, as to make it a very convenient and desirable method of getting up perspiration. It has been the custom for a long time back, in *domestic practice*, to take the hot-air Bath by means of burning alcohol in an open dish, which was placed under a chair upon which the naked patient was sitting, being covered with a blanket, or coverlet to keep in the heat; but occasionally a saucer, tea-cup, or whatever other dish might be used to contain the alcohol, which was set on fire, would break, causing the flame to spread, burning the person, covering, carpets, etc., more or less, so that many persons were fearful of using it. I had supposed, however, that the objection arose as much from an unwillingness to “take a sweat,” as from the danger of burning; but a former book-keeper of mine was taking dinner with me a few months back, this writing is September 5th, 1872, who was telling me of his treatment of himself for inflammatory rheumatism. He said he had “a gay time of it!” He put the alcohol into a tea-cup, and set it on fire, but the heat broke the cup, allowing the flaming alcohol to spread over the carpet by which it was spoiled for 2 or 3 feet in diameter, the coverlet burned more or less, and the “gay time” came in by the flame at once encircling his limbs, causing considerable smarting for some length of

Rooms, in a house, can not be over-estimated; and even where Bathing-Rooms have been fitted up with *tubs*, heating pipes, etc., there are times of sickness when it is very important that the patient should have a *full Bath*, yet it is impossible to carry the patient from the sick-room, the Rubber-Bath can be taken to the bed-side, and the patient laid carefully into it, with but little *inconvenience*, but *very*

time, notwithstanding he made "tall time," in bounding out of it, and helping to subdue the fire without thinking whether he was naked or clothed. He was well satisfied that he did not wish to risk another, in that way.

But I was very glad to be able to inform him, at that time, of a plan which I now give in this Work, that I had adopted and used the present season, enabling any one to take the hot-air Bath very easily, quickly, and with *perfect safety*. It is done by the use of an alcohol lamp, made for the purpose, to hold about a pint, with 4 tubes, or burners, as seen in our *illustration*, under the head of SWEATING. See also DR. JOHNSON'S CURE FOR COLDS AND RECENT CATARRHS. I tried the lamp, at first with one burner, but found that even *two* was not enough; so I had *four* put in, and found it "just the thing." It gives plenty of heat, but *none* too much. Pursuing the plan I have given in the *illustration*, as above mentioned, the Bath will be found very satisfactory, and effectual, as well as safe.

Professor King, in his "American Dispensary," on page 802, edition of 1871, speaks very highly of the use of the spirit vapor-Bath, or, as I here call it, the hot-air Bath. In speaking of its "history and uses" he says: "A spirit vapor-Bath exerts a most powerful, yet beneficial influence upon the whole system aiding very materially our endeavors to remove disease. This highly valuable mode of producing activity of the cutaneous vessels" (vessels of the skin) "has long been practiced in many sections of the country as a domestic remedial agent, and was introduced to the notice of the medical profession by myself, about 25 years ago, since which it is in much use by physicians. The advantages to be derived from this method of producing perspiration are very great, and it is not followed with any of those injurious consequences which often attend the internal administration of a sudorific.

"There is no danger of taking cold after this hot-air Bath, if a patient uses ordinary precaution; and if his disease will allow, he can attend to his business on the next day the same as usual. In fact, the whole is a very easy, safe, agreeable and beneficial operation, much more so than a mere reading of the above explanation would lead one to suppose. Chairs are now manufactured expressly for this purpose.

"This Bath is much employed by many physicians, and is highly beneficial in colds, pleurisy, and all febrile and inflammatory attacks, diarrhea, dysentery, sluggishness of cutaneous vessels, and in all chronic diseases where there is an abnormal" (unhealthy) "condition of the skin, in acute diseases, it may be repeated once a day, if required; in chronic diseases, once or twice a week, or once in a fortnight, according to indications.

"Where it can be done, it is always preferable to Bathe the patient with an alkaline wash, both before and after this vapor-Bath."

Of course, this endorsement and recommendation of the Bath, has reference to the old open-dish style of taking it; but as I had seen two or three notices in newspapers, of accidents arising from the old plan; then the recital of the above mentioned case, with so careful a man as I knew this one to be, it gives me great pleasure to be able to lay before the *profession*, as well as before the *people*, truly, "the better way." He makes this remark, in his description of the old method of administering it, "watching it, from time to time, to see that the blankets are not burned." He gives this further caution,

in another part of the description, "being *very* careful to pour no liquor into the saucer while the flame exists, as there would be danger of burning the patient, blanket, and perhaps the house."

The principal danger, however, consisted in the large size of the blaze, heating the dish and causing it to break, as above mentioned, or from flaring about by the wind caused in raising the blanket, etc., and, then it was too hot also, for comfort. All these difficulties are overcome by my method; and I have not a doubt but what Prof. King will be as glad to adopt it as any other person.

The lamp is very convenient, also, for warming medicine in a spoon, for children, in the night time, or for warming milk for a child that has to be raised upon "the bottle," as there is no smoke to black up the vessel, from burning alcohol.

I have called this a hot-air Bath instead of a spirit vapor-Bath, because it is such *in fact*; the spirit does not evaporate, or rise in vapor, but simply burns, and thereby heats the air, especially will this be the case with the *lamp*, and I believe also in the open dish, as the vapor burns as it rises. A vapor-Bath is made by putting hot irons, or stones into hot water, by which a vapor, or steam is produced. Persons must use whichever they prefer, or have conveniences for administering.

BEE-KEEPING AND BEE-MANAGEMENT.—When I first made up my mind to introduce into this Work, information upon the subject of Bee-Keeping, *from the many letters which I had received from the people asking for it*, as I had no practical knowledge upon the subject myself, I at once wrote to Col. J. B. Hoit, of Sauk Rapids, Minnesota, whom I knew, from my residence there, to be qualified, from his own success, to impart such knowledge to others as would enable them to undertake Bee-Keeping for themselves with a full expectation of success. The following is his answer; and I know whereof I speak, when I say it can be relied upon. Latitude, as the Col. says, has very much to do with Bees, especially in Wintering them. North of a range, East and West from the south boundary of the States of New York and Iowa, Bees can undoubtedly be Wintered better in *cellars*, or houses prepared for that purpose, than to allow them to remain out; while South of that range, it may be safe, perhaps to leave them upon their stands over Winter. Where the nature of the soil is such that cellars become filled with water, which is the case in some sections of some of our Northwestern States, the latter part of the Colonel's letter will give a remedy for, unless a Bee-House has been provided.

I deem it important, however, before the introduction of the Colonel's letter, to give a short description of the different *classes* of Bees, as follows:

Description of the Different Classes of Bees.—**The Queen.**—Every successfully working swarm contains one *queen*, or female Bee, many thousand *workers*, and, during their working season, there are also found many *drones*, or male Bees.

The most perfect affection is manifested by the whole family of Bees for their Queen. And if by any means she is lost, the whole swarm is thrown into the most perfect confusion; they will be seen running hither and thither, over the combs and finally out of the hive, making the most energetic efforts to discover her; and if they do not succeed, and have not the proper brood for another Queen, lain by

her, on hand, or are not furnished with such brood, artificially, or are not joined with another swarm that has a Queen, the whole swarm will soon perish.

FIG. 16.



QUEEN BEE.

The Queen is considered the most important personage in the colony; and scientific observation has established the fact that the Queen is the *only perfect female* Bee. She is considerable longer than either of the other classes, and although she is larger around than the worker, yet, her length gives her a slim appearance, by which she is easily distinguished from either of the others. And although her color is dark, yet, it is bright and striking, and having but little, if any, of the fine hair seen upon the drone and worker. The underside is of a yellowish, or golden color, and often a yellowish band, or bands pass nearly around her; and especially will this hold good with the Italian Queens. Her wings are quite short, as compared to the length of her body; being also more pointed, or sharp, in the posterior, or hind part of the body, which also has a little downward curve. Although she has a *sting*, it is said she never uses it only to destroy a rival Queen.

The Queen never leaves the hive, except to meet the drone, or male Bee, in her flight, for the purpose of impregnation, that she may lay her eggs for the purpose of perpetuating the life of the colony, and to furnish Bees for a new colony also.

FIG. 17.



WORKER BEE.

The Worker.—Upon the Worker depends the *sweets* of the hive, and the profits of their culture. As the lives of the swarm, as well as the profits depend upon numbers, for *warmth*, as well as for *work*, the Workers are found to make up the mass—great majority of the hive. They manufacture the wax, with which *they* make the comb; *they* gather the honey and the Bee-bread; *they* nurse and feed the brood, or young Bees; *they* keep off intruders, and defend their homes with their stings; and *they* gather a cement, called *propolis* (which word is formed from two Greek words, *pro*, before, and *polis*, a city; hence, it literally means, "before the city." The ancients gave it this name because the Bees use it to fortify their dwellings,) with which they cover up all cracks and crevices in the hives, and cover glass if used in making their hives, or boxes, if left so as to admit light into the hives; in fact, *they* are what their name implies—*literally the Workers*—they do all the labor that is to be done.

It was formerly believed that the Workers were neither male nor female, *neuters*; but more recently it has been determined by microscopic examinations that they are female, but of imperfect development, yet sometimes so far developed that they do lay eggs; this is not common, however; but their *stings* are *fully developed*, and they know how to use them when occasion requires, although, as a general thing, the Bee loses its life from the loss of its sting. The mechanism of this means of defense, in the Bee, is very peculiar. "It is moved by muscles which, though invisible to the eye, are yet strong enough to force the sting, to the depth of one-twelfth of an inch, through the thick skin of a man's hand. At its root, are situated two glands by which the poison is secreted; these glands uniting

in one duct, eject the venomous liquid along the groove formed by the junction of the two piercers. There are four barbs on the outside of each piercer; when the Bee is prepared to sting, one of these piercers having its point a little longer than the other, first darts into the flesh, and being fixed by its foremost barb, or beard, the other strikes in also, and they alternately penetrate deeper and deeper till they acquire a firm hold of the flesh with their barbed hooks; and then follows the sheath, conveying the poison into the wound."

FIG. 18.



DRONE BEE.

Dryden says of this Bee:

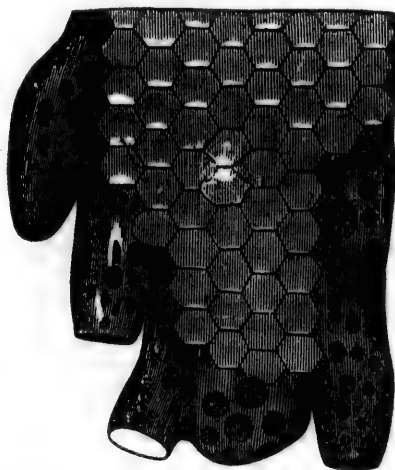
"All with united force combine to drive
The lazy *Drones* from the laborious hive."

They are larger than the Worker, and shorter and more bulky than the Queen; naturally they are not as active as either of the other classes. They are the *males*; and when the season of brooding is over, from April to August, they have to yield to "the balance of power," which is against them, in the great number of the Workers, so that most of them are soon driven out, or killed; being without stings, they have no means of defense, and fall an easy prey to the merciless stings of their enemies. I think our cuts give a fair representation of their proportions and differences of appearance.

Queen Cells.—In the commencement of the honey season, in vigorous colonies that have been well supplied with honey, it will be found that the comb is well filled with both *worker* and *drone* brood; and the swarm, or colony will increase rapidly in numbers with an expectation, according to their instincts, of sending out new swarms; but, to meet this demand, or rather that there may be a "governor" ready and well qualified to go out with the *new* colonies, there must be provided a *new Queen*, hence, it becomes necessary to provide some *Queen Cells*; for the ordinary worker, or drone cells are not of sufficient size to admit of growing a Queen in them. To provide for this necessity, they choose, generally, the unfinished cells found upon the edge of most comb, and lengthen them out, somewhat after the form represented in Fig. 19. These common cells are lengthened out and enlarged, and those upon the sides are turned downward; and as soon as the Queen Cell has fairly reached its full size, in diameter, and from a third to one-half its length, the Queen deposits the egg for the *new Queen*, after which the cell is completed and sealed up, and sometimes several of them are provided, eggs deposited, finished and sealed up also. And when this work is accomplished, a swarm may soon after be expected; provided that *artificial swarming* is not resorted to, as they do not wait for the hatching out and maturing of

a new Queen; but the old one goes out with the new swarm. This is a peculiarity of *Bee life*, for they know that the old hive has been provided for in the *Queen brood*, or eggs that were deposited by the old Queen before she left. About 16 days from the time the egg has been laid, a mature Queen will be found. Many of the old worker Bees remain in the old hive. Although several Queen Cells have been provided, and brood deposited in them, the first Queen that issues from her cell, which she will do in 7 or 8 days from the deposit of the egg from which she has emerged, notwithstanding she is still not fully grown, her first work is to hunt out the other royal cells, and biting a hole in the side, sting to death, those that would be her rivals. But sometimes the workers, knowing that sufficient brood has been provided for two, or more swarms, they will set a guard, soldier-like, to prevent the destruction of the other Queens.

FIG. 19.



QUEEN CELLS.

Thus foiled in her plans of destroying her rivals, says Quimby, "she gives utterance to a distinct piping noise, and in 2 or 3 days thereafter yields to the wishes of the Bees, and issues with a swarm. This performance is repeated as long as the Cells are not destroyed. The Queen that succeeds in putting the others to death, remains, and becomes the mother of the colony. It is often the case that 2 or more Queens hatch simultaneously, in which case there is a deadly strife. There seems to be an implacable animosity in their very natures.

The young Queen, now left with the colony, becomes fertilized by connection with the Drone in the open air, in about 6 days after leaving the Cell. Two or 3 days afterwards she will begin her maternal duties. The

number of eggs that a Queen will lay in 24 hours is astonishing to the novice. From repeated and careful observations, I have no hesitation in saying that a good Queen will deposit from 2,000 or 3,000 eggs daily.

If from any cause the supply of honey fails, so that it would be injudicious for a swarm to issue, the Queen Cells are sometimes destroyed by the Workers, and the Drones then also fall victims. If they escape this massacre, it is only to be driven out and destroyed later in the season. A few may linger as late as December. Remembering the fact that the Workers are short-lived, it is easy to see that if a colony loses its Queen during Summer, from any cause, its numbers will soon seriously diminish, unless there is provision made for a successor. If a laying Queen dies, there will probably be brood in all stages of development left in the hive. The Workers will select Worker larvae about 3 days' old, convert 1 or more cells into Queen Cells, and in 10 days thereafter will have a mature Queen."

This providing for all of the various circumstances which arise in Bee life, may be set down to the wisdom of an Almighty hand, that ~~we~~, His *more important* creatures, might be supplied, in our necessities, with a class of food, that should not only be very pleasant to the taste, but nourishing to the system, and, withal, be good as a medicine.

There are those who claim that the Bee is possessed of something *more than instinct* (involuntary, or *unreasoning* action), in other words that they do reason! Be that as it may, I do not deny it, but rather claim that the Bee is not the only animal, other than man, that is possessed of what *appears*, at least, to most of us, to be a kind of reasoning power; but this does not by any means prove them to be possessed of such an amount as to constitute them responsible beings; but, yet, it does prove to my entire satisfaction that they were created by a Wisdom that is so far superior to our own, that we, of right, ought to be held responsible to that Creative Wisdom.

The Queen Cell is made about 1 inch in length, and about one-third of an inch in diameter; and it is claimed that the Queen brood is fed on a different class of food to that which is fed to the other classes of Bees—*royal food*. It is more than probable. After the season of raising Queens is over, it is believed also, that the Workers gnaw the Cells away, leaving only the cup foundation, as it was at first found, except it can be seen that it has been enlarged.

The industry and perseverance of the Bee is as fully remarkable as their instinct—as cheerful also, we would say of persons, as industrious; and notwithstanding that some persons feel more or less fearful of their stings, almost everybody is glad to see them come into the garden, or bower, to gather their sweets. This is fully manifested by the following lines of Professor Smyth, with which I will close my description of the different *classes* of Bees, together with that of Queen Cells, etc. He says:

"Thou cheerful Bee! come, freely come,
And travel round my woodbine bower;
Delight me with thy wandering hum,
And rouse me from my musing hour.
Oh! try no more those tedious fields,
Come taste the sweets my garden yields;
The treasures of each blooming vine,
The bud, the blossom, all are thine."

I will add only another thought to this subject: May our industry equal that of the diligent and persevering Bee; and if our intelligences fails to be sufficient for any emergency, "let us ask of God, who giveth liberally and upbraideth not," so shall we be qualified for the positions and conditions of life, remembering that herein consists the chief difference between intelligent and responsible beings, and of those which may *appear* to have a reasoning instinct, *they* are what they are created, and there they *remain*; we may *increase* in knowledge, not only through *this* life, but, through a never-ending existence may learn more and more of that Creative Wisdom which will not only hold us responsible for all lack in improvement, according to our opportunities, but also for our failures in not doing our duty according to the teachings of the monitor—conscience—which He has placed within us, to fill the place of the *instinct* that he has given to His creatures of a lower order of intelligence.

But, to return to the letter before referred to. The Colonel says:

SAUK RAPIDS, MINNESOTA, December 1st, 1871.

DR. A. W. CHASE,—*My Dear Sir*.—You request me to give you my method and experience in Bee-Keeping and Bee-Management. I will try and do so in as brief a manner as possible, although I am not an expert in the art. I have learned something every year by practice and experience; and yet there is much to be learned. Different localities and particularly the different degrees of latitude have very much to do with the system of Bee-Keeping, and they should be studied and compared before adopting any new theory; for instance, a system that would be a perfect success in Texas or Tennessee, if adopted in my latitude (45° North) would be an utter failure, or *vice versa*. I think that this in a great measure accounts for the great confusion of opinions among Bee-Keepers in regard to the proper size and best Bee-Hive, and the mode of Wintering Bees, etc. Bees are generally kept for profit; and, unlike other stock, they are self-sustaining, not only providing their own food, but with judicious Management, will store a large surplus of honey; and it is much easier to give them the little attention needed than the trouble of caring for cattle and sheep, etc., Bee-Keeping is a subject that interests every farmer, and in a country so vast as ours, and capable of producing millions of pounds of honey every year, which now goes to waste, and the principles of gathering, which, if well understood, would be intimately interwoven with all of the industrial pursuits of the country. Many people entertain the vague idea that *luck* has much to do with one's success. But such is not the fact. Although one may not know it all, if he would take hold of it like any other business, he would learn enough of its principles to guide him safely along, and by joining the theory to practice he would soon become an expert in the art. I have kept Bees in this State (Minnesota) about 15 years, and have been uniformly successful in *natural swarms*, storing of surplus honey and Wintering my Bees. I have failed mostly in artificial swarming, and experimenting, or trying to find out or get (what every other Bee-Keeper wants to know, *i. e.*, which is) the best Bee-Hive, which has cost me some hundreds of dollars to learn that one-half of the merits claimed for most of our patent Bee-Hives, when put in practice by the Bee-Keeper, is not worth a brass pin, and only serve to discourage or disgust a new beginner with the whole business. I do not mean to condemn all patent Hives; some of them are good and entitled to all of the merits claimed for them. *The movable frames are a great improvement*; and for all purposes, I think very favorably of the Langstroth Hive. [I am told that the patents on the Langstroth Hive expire this year. This note is written in by me, September 3, 1872.—AUTHOR]. As a general thing, I think that our Hives are too large; would prefer one to contain a little less than 2000 cubic inches. I use the honey boxes on top of my Hives. Honey boards with auger holes for the Bees to crawl through to get into the boxes is a humbug. I prefer large boxes to small ones, although the latter will sell the highest and best. My experience is that the Bees will fill a 25 lb. box almost in the same time that they will a 5 lb. box—have had them fill the former size the past season in 10 days, which satisfied me very well. I took off from less than 40 swarms this year 1200 lbs. of choice box honey, which has sold in this vicinity to the consumers at an average price of 30 cents per lb., or \$360.00. My time and cost of boxes for the year would not exceed \$15.00, which would leave a net

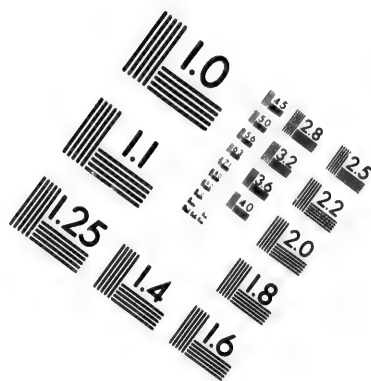
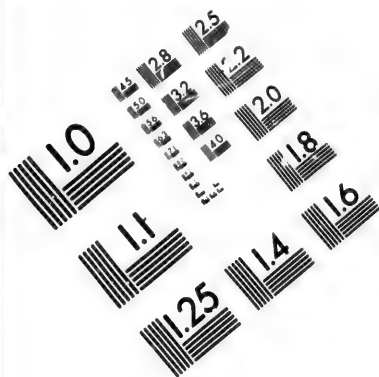
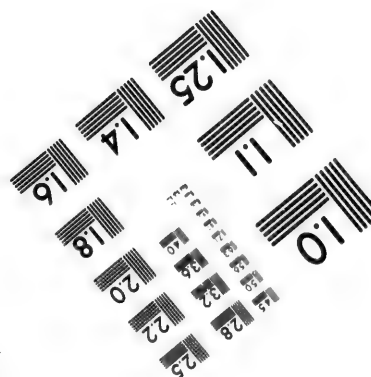
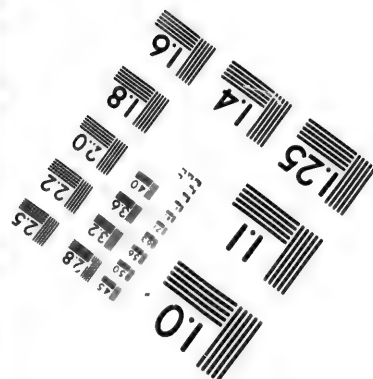
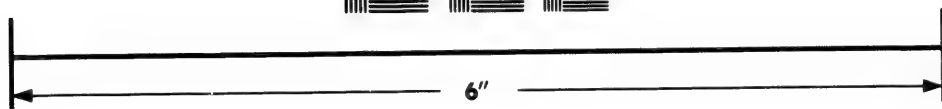
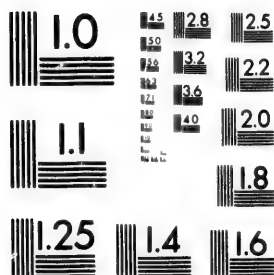


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sum of \$345.00. Some of our Bee-Keepers in this State report having taken the past season 300 lbs. of honey from a single swarm, but I presume that they used the "Honey Extractor," which I do not choose to adopt, although it makes my account book small; but I cannot change facts; and with my past experience, I am in no hurry to run after or adopt new theories, although I may be called an "old fogey."

A good swarm of Bees, in the Spring should consist of 1 female, or Queen Bee, a few males, or Drones, and from 20,000 to 40,000 neuters, or Workers. The swarming season in this latitude commences about the 1st of June and lasts until the middle of July. In hiving natural swarms the hive should be clean and cool, and as soon as the Bees have entered, it should be put on its stand in a cool and shady place; the honey boxes should be turned bottom up for several days, or until the Bees have put enough stores into the hive to last them for the Winter; then if the yield of honey is good they may be allowed to enter the boxes. I prefer natural swarms, and 1 from each old stock is better than 2 or 3. All must remember this fact, that success, and all profits, depends on large, or strong swarms. Weak swarms will be almost sure to become a prey to robbers, millers, etc., if allowed to remain so long; but if taken in season, they can be doubled up, or united with other swarms; otherwise send them to the brimstone pit at once; for an attempt to save them by feeding to any great extent, will result in a failure 9 times out of 10, in this latitude. But there are times when it should be resorted to in the Spring of the year, when an old stock of Bees would perish of starvation, the same as a farmer would say by his cattle, between hay and grass, also when several days of stormy, bad weather follows immediately after the issuing of a young swarm of Bees. In such cases I prefer to use good honey, pouring a few spoonfuls amongst the Bees. Some of them may get daubed, but it won't hurt them any more than it would so many children. White or rock candy is also good; but if neither of these are at hand, dissolve sugar—white if you have it—boil and skim it, and pour a little of the sirup around the Bees for a few days. The entrance holes should be contracted in proportion to the danger of robbers, or Bees in the immediate neighborhood, while feeding is continued.

The Spring and Fall are the best time for transferring Bees from gum or common board hives to *moveable-frame hives*. For clamps to hold the combs in place in the frames until the Bees fasten them, I prefer to use strips of wood about one-eighth of an inch square; and a little longer than the frame is deep; using small tough wire on the ends of the clamps or sticks. When everything is ready, I lay down 2 sticks, with the wires wrapped around the ends of them on the table or bench, then lay the frame over them; then turn the gum or hive bottom up and clap a box over the hive; if it does not fit good, wrap a blanket around them so as to close the connection; then thump with a small stick on the hive for 10 minutes or so, until the Bees have filled themselves, and gone up into the box; then take away the blanket and put the box gently on the ground; then draw the nails or split the gum in 2 halves, care being taken not to injure the combs; then with a thin, sharp knife, cut out a sheet of the comb and lay it on the frame, putting the upper edge of the comb within the upper side of the frame, and then trim the other edges so that it will fit down into the frame, then lay 2 sticks having no wires on, over the 2

that are underneath the comb, wrap the wire around them and put the frame in the hive; care being taken to put the combs that were in the center of the old hive in the center of the new one. The combs all in and hive closed, take the box, and by a quick, downward motion, shake the Bees out of the box, in front of the new hive, and as soon as most of them have entered, put the hive on the old stand, reducing the entrance holes, for a day or two, or until all of the waste honey has disappeared. Closing the entrance holes is the only remedy that I know of to prevent *robbing*. Where there are many Bees kept, and much trouble, I close them until but 1 Bee can go out or in at a time; and a swarm that can not take care of itself under that regulation is not worth keeping. Closing the entrance should always be resorted to in the Spring and Fall.

I have always Wintered my Bees in my cellar, which has a very dry gravelly bottom. Dampness is death to Bees, and, I believe, is the sole cause of the dysentery, which so much is being written about. I usually put them in about the 20th, of November, and take them out about the 10th of April. In putting them in the cellar, I lay down 2 pieces of scantling so as to leave at least 6 inches space between the back of the hive and cellar walls. Place a row of hives on the scantling with 3 inches interval between hives; *bottom boards off, and entrance holes all open*; then set the next tier on top of the first, leaving the intervals as before stated; but breaking joints, as a mason would say, *i. e.*, setting 1 hive on 2; proceed in like manner with the third tier. If a large number are to be stored, commence the next row so as to leave at least 6 inches alley-way, so that "puss" can pass down between each row, and look after the mice; by doing so I have never been troubled with them. I have stored upwards of 100 swarms in my cellar as above described, and the usual amount of provisions and vegetables without any inconvenience to either. The temperature should be kept as near freezing as possible, and towards Spring if it gets warm, carry down a few bushels of snow or a lump of ice, each day, until a change of weather, or it is time to put the Bees on the Summer stand, which should be done some fine pleasant morning. After the first day, the entrance holes must be closed, or reduced so as to prevent robbing, until the Bees commence to bring in pollen or wax on their legs as some would say, when the entrance holes can be opened and allowed to remain until the first frost in the Fall, when the same precaution should be taken again. But in doing this, care should always be taken not to close them so as to smother the Bees. By placing the Bees, as above described, you can see their condition and judge by the number that fall down between the intervals, how they are Wintering without disturbing them.

If I were deprived of a dry cellar, or rather than put my Bees in a cellar with a very large quantity of vegetables, I would adopt the following plan, viz: Place the hive within about 6 inches of the ground, at or as near the Summer stand as possible; open the entrance holes which should be large; if not, make them so, then drive 4 stakes, one at each corner of the hive firmly in the ground, then twist a straw rope—hay is better—and commence at the ground and wind around the stakes firmly, and closely until you get above the top of the hive; then lay on a board and secure firmly, and let them remain until the snow has about half gone off in the Spring, when the covering can be removed and entrance holes closed as before directed, I have never

used a Bee-House, nor would I if one were given me. I prefer to scatter my Bees around the yard in the warm sunny places—not the young swarms—leaving several feet interval between swarms. From my experience, I do not believe that there is any advantage derived from giving young swarms old comb, although it is clean and free from mould. A swarm of Bees put in a clean hive will build their own comb, and do much better than a swarm put in a hive with the comb already built. I am aware that almost all Bee-Keepers are of a different opinion. I do not like to be constantly fussing and tinkering with my Bees; it does more harm than good. They need but little care, but that should be bestowed at the right time, and when needed. A quick and practiced eye will soon see what is wanted in a stock of Bees. I have kept the largest quantity of Bees in the highest latitude of any man in the United States, east of the Rocky Mountains, and have discovered that Bees can be smothered and starved to death, but can not be killed in this latitude by freezing.

Yours truly,

J. B. HORT.

Although Col. Hoit's instructions in Bee-Keeping, I think, are sufficient to enable any one, of ordinary judgment, to succeed in keeping what Bees might be necessary to furnish all the honey that might be needed for domestic use, yet, as there has been so many inquiries made of me for information upon this subject; and, as there are so many persons who desire to enter into this branch of industry for a regular business I have thought it best to introduce an essay written by Mrs. Ellen S. Tupper, which so completely covers the whole ground of Bee-Keeping and Bee-Management, as to satisfy all who wish to engage in the business. And I can not introduce Mrs. Tupper to our readers in any better way than by inserting the following item from the *New York Tribune*, which will not only satisfy every one as to her reputation and responsibility as a writer on Bee-Keeping, but which also gives hints to others, who, like her, might find it a good thing to leave the over-crowded Eastern States, and take up their abode "in the West," where industry, and perseverance, is sure to find a rich reward.

Under the head of BEE-CULTURE FOR WOMEN, it says:

In the year 1853, Alvan Tupper married a plain girl of strong common sense, who was born in Rhode Island, and had lived some years with her parents in a humble way at Calais, Maine. He was not rich and she was not rich, and labor was abundant all about Boston, where they lived, man a drug, and capital mighty. This did not suit Mr. and Mrs. Tupper, so instead of submitting, and knuckling, and making beaver overcoats at 50 cents each, and feeling that every mouthful of sirloin they swallowed was so many cents gone, and trying to be happy all the time on baked beans, and salt codfish, and boiled potatoes, and hock soup, they determined, as 10,000 other young married folks should, to leave the over-crowded East. So they went out to Iowa and bought a quarter section of dark prairie land near Brighton. Her health was not good. The raw air of Boston harbor had rasped her throat, and to keep out of it she had stayed in-doors till she had headaches, and grew sallow, and the blue lines under her eyes turned purple. The doctor told her, as he has told half a million just such sufferers, that she must go out doors more, breathe fresh air, throw off her cares, and be cheerful. All very well for a medical man to say, but how is such advice to be followed when the man must go out on his

acres and "work till the daylight fadeth," and the woman must wash the breakfast things, and then churn, and then bake, and then make the beds, and then get dinner, and then sew till time to drive up the cows and skim the milk and get the supper, and then, when the last dishcloth is wrung out, the poor thing has her children's feet to wash, and feels like dropping down on the little bed with them, and when they fall asleep she falls a crying, and wishes she were a child again and might always stay a child. Mrs. Tupper was not the woman to stick in the mud of this Slough of Despond; she made a brave resolution and acted on it. "I will go out doors; I won't die as maid of all-work in my own house; I will find employment out of doors, and make it profitable enough to at least pay the board and wages of a stout girl." So she bought a hive of bees. Then her prosperity began, and her health started on an ascending grade. The more she stayed out among the hives the more her interest grew and the more honey they made. The story of her success was spread, and many came to ask her how it was. Then, to escape the weariness of telling the same story over and over, she took up her pen and became a writer on Bees.

On several occasions she has successfully competed for premiums offered by agricultural societies in essays on the culture of Bees. One of these was adopted by the Department of Agriculture and appears in the reports of 1865. For this article she received the stamp of governmental approval in the form of \$300. She is a woman of work, and beside the care of her own busy brood of 100 hives, she has a place in *The Iowa Homestead*, of Des Moines; *Prairie Farmer*, of Chicago; *Rural World*, of St. Louis; *Hearth and Home*, and *Bee-Keepers' Journal*, of New York, which she regularly fills, with good sense and practical information.

A few days ago the Bee-Keepers had a convention at Des Moines. A good many came together and the assembly resolved itself into a committee of inquiry to put questions to a plain, modestly-dressed woman who has won fame and competency by being expert in one tasteful and beautiful industry. All the important information drawn out came from Mrs. Tupper, and the sentences that follow are condensed from her answers:

Bee-Keeping is peculiarly adapted to woman. She will give more attention to very essential details than man. Italian queens improve in this country. The test of an Italian queen is the peculiar mark imparted to her brood. Italian Bees are the most industrious workers, starting in the morning an hour earlier than the black Bee; they will make one-third more trips in a day than black Bees; heart's-ease or smartweed afforded the best food for Bees; when feed is scarce it would pay to furnish Alsike clover for food. Bees must have access to water. Raising queens in any but the natural way causes a depreciation of both brood and queens.

In dividing colonies, secure the live young queen for the new hive. If to save honey is not the object, two hives can be made out of one colony each Summer. Do not divide before the first week in May, and not then unless the evenings are warm. Leave most of the young Bees in the old hive. Avoid having workers enough in the new hive to fill the cells before the new queen begins to lay. Do the changing in the middle of a warm, sunny day, as then most of the stout, able-bodied stingers are absent in the fields. Do not believe in forcing and

feeding Bees. Bees brought out prematurely by artificial means will not be strong, and never live to make honey. I winter my Bees in a large, dry cellar, kept perfectly dark. Do not regulate the temperature. The cellar should be cold enough to keep the Bees in a semi-torpid state. Put them in the cellar in December, and let them remain until Spring. The hives should have holes, that the Bees may come out, so that they will not become restless and discontented. Take no extra pains to ventilate the cellar. Out of 100 colonies kept in this way, I do not have a pint of dead Bees in the Spring. I prefer in-door wintering to out-door. One colony wintered out will consume *thirty pounds* of honey, while one wintered in-doors will eat *five and a half pounds only*. Bees wintered in-doors are as healthy in the Spring as when put in the cellar.

Mrs. Tupper's Letter on Bee-Keeping.—The following letter of Mrs. Tupper, on Bee-Keeping is from the *Hearth and Home*. It contains valuable hints, as well as positive instruction in the art, given in answer to many inquiries upon the subject. The introduction and letter were in the following words:

Mrs. Ellen S. Tupper, of Brighton, Iowa, well known as an extensive and successful Bee-Keeper wrote as follows: "Many letters have reached me the present Spring from persons who are interested in Bee-Keeping, asking information on various points. Most of these I have answered, but some have neglected to give their address, and these perhaps may be reached through you. One question repeatedly asked is this: 'Will Bee-Keeping pay one who has no experience?' To this I answer that it will undoubtedly, if one is contented to begin in a small way and only increase as they gain knowledge and experience. Begin in this as in anything else—by degrees. Purchase one or two stands of Bees, take care of them yourself and study their habits, and experience comes as rapidly as the Bees increase. Be contented to take the counsel of others as your guide until you know something yourself by actual observation. No enterprise requires less capital or experience in making a successful beginning. The trouble with most who commence is, they find it so much easier than they expected, that they are soon too confident and go faster than more experienced Bee-Keepers dare advance. I have seen beginners often who knew more the first season they kept Bees, than Quimby or Langstroth ever taught them; but I usually remark they know less after a year or two, and rely more on the experience of others. Another question is: 'Is there any advantage in an improved hive over an old-fashioned box hive?' I have no wish to decide upon the merits of patent hives. Their name is legion—every one 'the best in all respects' if you take the word of the patentee—while the practical Bee-Keeper finds most of the so-called 'improvements' worse than useless. *Some form of movable-comb hive is absolutely necessary to successful Bee-Keeping.* The use of them makes the business a certainty instead of guess-work. With them Bees can always be kept understandingly, because their wants may be known and supplied—weak ones can be added or united with others, queenless ones supplied with 'mothers,' and honey taken with ease from all that have a surplus. Have the frames in as simple a form as possible, with no moth traps, slides, or extra 'fixins.' 'Is there danger of overstocking the country with Bees?' I have had no experience with Eastern Bee pasturage, but am convinced that in the West and South the country

will never be overstocked. The honey resources are so abundant that whenever one colony can do well, any conceivable number will find more honey than they can gather while it lasts. I can not imagine Bees enough to store the honey secreted here in the countless blossoms of the sugar maple, the wild fruit, the linden, or the white clover. If your Bees are not prosperous in a favorable season, seek for the cause in the condition of the colonies rather than in a deficiency of Bee pasturage. What is a honey extractor? It is an invention for taking the honey from the combs without injuring them, after which they can be returned to the hives and the Bees refill them. The Germans call it a 'honey slinger,' and this is the proper name, as by the centrifugal force it 'slings' the honey from the combs. Its introduction is a great advance in Bee-Keeping, for by its use the yield of honey from each hive is largely increased. At present this honey does not sell as well as 'honey in the honey-comb,' but as it is more widely known it will find favor."

Prize Essay—By Mrs. E. S. Tupper.—Bees, from the earliest ages of the world, have been invested with peculiar interest, and have claimed the attention not only of the unlearned and ignorant, but of the student and naturalist. The mystery which so long enveloped them and their habits added not a little to the zest with which their history was investigated.

The discoveries of the last twenty years, however, have so elucidated the laws of Bee instinct, that no important point is longer a subject of controversy or mystery; and in the light now thrown upon the subject no branch of moral economy can be more definitely regulated, or conducted with such absolute certainty of success.

The Management of Bees can only be successful when conducted with a perfect understanding of their natural history, and in accordance with the instincts which govern them. In the words of one of the most eminent apiarians in our country, "The business may be viewed first, as a *science* having for its object the attainment of a correct knowledge of all that pertains to the life, habits, and instincts of the Honey Bee; and, secondly, as a *practical art*, which regards all the attainments thus made, and to be made, as the only reliable foundation of successful Management." The laws which govern these wonderful little insects are peculiar to themselves, differing from those which govern everything else. They are simple, and one can Manage them in almost any way so long as he does not go counter to their instincts; but they are fixed and immutable, and when we deviate from them in the smallest particular, loss must follow. To be successful, then, in the *practical art*, the *science* on which it is founded must be thoroughly understood.

All these laws have been so fully and clearly explained in various able works on the subject that to enter on them here would be superfluous; this paper, therefore will treat only of the *practical*, and aim to give direction and advice as to the Management of Bees, in such a way that they shall every year, whatever be the season, yield a profit to their owner.

I shall recommend nothing that I have not fully tested, and give no rules which I have not myself followed with profit. The business requires but little capital, and so little strength that it may be made an agreeable recreation for the man of toil, and a most remunerative employment for invalids. There is no part of the work required

which is not suitable for *women*; and now, when many are looking for new avenues of female labor, I would that I could induce some to find health and pecuniary profit in this business. In almost every part of the United States honey-producing plants abound; no other country in the world is so rich in them, and yet this great source of wealth is comparatively undeveloped.

By the official report of the Department of the Interior, it appears that there was produced in 1860, in the whole United States, only 23,306,357 lbs. of honey, which is about half the amount of maple sugar produced the same year. For the same year the little kingdom of Denmark produced 4,758,260 lbs. of honey. The island of Corsica paid, for many years, an annual tribute of 200,000 lbs. of wax—which presupposes the production of from 2,000,000 to 3,000,000 lbs. of honey. The island contains only 20,200 square miles. In the province of Attica, in Greece, containing only 45 square miles and 20,000 inhabitants, 20,000 hives were kept, and an average obtained from each of 30 lbs. of honey and 2 lbs. of wax. East Friesland, a province of Holland, containing 1,200 square miles, maintained for 20 years an average of 2,000 colonies to the square mile.

I mention these facts here to show what is done with Bees in different parts of Europe. Now, if these results can be obtained there, what may not be done among our rich plants, by a system of intelligent Bee-Culture! No part of the world is more rich in honey (excepting, perhaps, California) than Iowa, and yet here, in 1865, were found but 87,118 hives of Bees, or little more than 1½ to every square mile. These hives yielded only 1,117,833 lbs. of honey and wax, or about 13½ lbs. average to each hive. In view of facts like these, how important to encourage, in every possible way, the increase of Bees, and circulate facts regarding their intelligent culture.

Hives.—For 50 years Yankee ingenuity was busy in the construction of hives which should secure marvellous yields of honey and increase of Bees. The idea was to invent something which should do the work for them. All such inventions (and their name is legion) proved failures, as might have been expected, since it is a fixed fact that Bees will gather and store just as much honey in an old hollow log or an old barrel, *while all is right with them*, as in any hive of any patent. *The object, then, in having anything else for them is not to aid the Bees in storing honey or raising brood, but to assist the owner in getting the surplus honey in the best form, without injuring the Bees, and also to give him the control of the interior of the hive, so that he can tell what is wrong and apply the remedy.* From the time of Huber such an invention has been thought desirable, but it was not until our day that such a one was made.

Between 1834 and 1845 several persons in Europe and in this country, invented hives in which the combs were to be built each on a separate bar or frame, which could readily be lifted out at pleasure, and thus a new era in Bee-Keeping was commenced.

[Since this Essay was written, as all are aware, great improvements have been perfected in hives, of which it is quite unnecessary to speak here.]

There is nothing in these hives which is intended to perform the labor of the Bees, or their Keeper. They are simply aids to the work. The great advantage which they possess is the command which they

give of every comb, placing it in your power to know certainly the condition of your Bees.

In the common hive it is easy to tell when your Bees are prosperous and all is right. It is equally easy to tell when something is wrong, but not so easy to find out what that something is. You may perceive that the Bees decrease, and suspect that they have lost their queens; or notice that they work with less energy, and think possibly (as is often the case) that they have too much honey stored in combs where the young should be. But there is no way to ascertain positively, and often before you decide the matter it is decided for you by the colony becoming worthless. In the movable-comb hive it is your own fault if you do not know positively all the time that there is no trouble. If a hive is queenless it is soon ascertained by examining the combs, where the presence or absence of eggs determines the matter. In this case another queen, or the egg from which to raise one, can be at once provided. If too much honey has by some accident been stored in the centre combs, one or more can be exchanged for empty ones, which the queen will gladly fill with eggs to replenish the hives.

And here let me say that this trouble I find to be one of quite common occurrence. During a plentiful yield of honey the Bees, in their eagerness to store it, often stint the queen for room in which to deposit her eggs. I have often seen this in movable-comb hives, where the remedy can be applied in a moment. This is only one proof among many that it is not always safe to trust to the instinct of Bees any more than that of any other animal.

[Within a few years a machine has been invented, and is now made in several forms, for extracting honey from the combs, which are then returned to the Bees to be refilled. This extractor has made a great change in Bee-Keeping, and also made necessary a remodeling of hives, so that room for more frames may be given. It is easy to obtain now three or four times as much honey from a colony by means of the extractor as was obtained in the comb in the old way.]

(It should not be forgotten, however, or overlooked, that honey in the comb, in nice boxes, will always keep the best, and also fetch the largest price in the market; and, again, there is no danger of its souring, while there is considerable danger of its souring, if extracted.—AUTHOR.)

Another advantage of these hives is the facility with which drone comb can be removed, or its building prevented. One who has not examined the matter would be slow to believe how much honey is needlessly consumed every year in drone raising. Here, again, the Bee instinct falls far short of reason. When Bees live wild, in isolated situations, the rearing of many drones no doubt conduces to the safety of the young queens; yet a preponderance of drone comb is, I am convinced, partly accidental. Late in the season, if honey is very abundant, and little brood being then raised, many colonies construct drone comb to enable them to store faster than they can do in worker combs. The next spring they do not, of course, tear it down and build others, and, being there, the queen deposits her eggs in it, and drones are thus reared. It is also well known that colonies, while queenless from any cause, build drone combs, if they build any, and in the hives of such colonies there is a surplus for the next year. Now, if 100 hives are kept together, and drones are raised in

one or two of them, it is enough for all. Therefore, it is easy to see the economy of a hive in which drone raising can be restricted at will, and the honey used in raising and afterwards in feeding them may be saved. I say "restricted," for I have never found it best to leave any hive entirely without drone comb. It is better to leave a few inches in some central comb in every hive; otherwise, at the swarming season, they will lengthen out the worker cells and raise some drones. If they have room for a few it seems to satisfy them.

Again, the prosperity of the colony depends much on the age of the queen. All must have perceived the difference in prosperity of swarms side by side, in the same kind of hives and in the same location; one will vigorously increase and store up honey, while the other barely lives. In many cases this is caused by the difference in the age of the queen, as any one will ascertain who takes the trouble to mark the hives containing young queens. After the second year the queen is far less prolific, and then much is gained by removing her, which is easily done in these hives. It is objected by some that this is "unnatural;" but I would ask, is it any more so than to kill a hen after she is too old to lay many eggs, or to shear a sheep, or break a colt? Why may we not use Bees contrary to their nature as well as domestic animals?

The strengthening of weak swarms is also facilitated by these hives. Such colonies will always be found where many Bees are kept, and by the aid of these frames they may be built up into strong and vigorous ones; honey, bee-bread, and young Bees being taken from a stand well able to spare it, and given to those perishing from the want of it. In this way many worthless swarms have been converted into excellent colonies. In the Fall, all such weak swarms may be united with strong ones, which are improved by the addition. In the Spring, the same thing can be done, and your hives kept always equalized and strong. Old or soiled comb can also be taken away when you please. But the pruning of old comb, which is practiced by many every year, is in most cases unnecessary. So long as it is free from mould, it is good to store honey or to rear brood in. I invariably find, all other things being equal, that Bees winter better in old comb than in new. Bees have been kept in the same comb twelve years in succession, doing as well the last year as the first. When the cost of honey in building new combs is considered, the advantage of hives in which you can save all good pieces is very apparent.

It is not necessary to have these frames in a complicated hive; nor in commending them do I mean to indorse the *hundred-and-one* traps for the ignorant, which in many hives are added to them. A plain tight box, well made of seasoned boards, in which the frames can be hung, is all that is really necessary. Any amount of extra outside finish may be added, and it always pays to have hives well painted.

Size and Shape of Hive.—There is much difference of opinion among Bee-Keepers on these points; and this arises, I think, from different ways in which Bees are wintered. About 2,000 cubic inches inside is, by exact computation, as much as can be filled by a queen with brood, and allow room for bee-bread and honey for present use. In the Fall, as the brood hatches, the empty comb is filled with honey, and this size also admits of room for sufficient winter stores in any season. I once thought that much less than this would Winter a col-

only; but one season, when we had an early frost succeeded by a late Spring, and my Bees gathered no honey for eight months, I am sure that the size of my hives alone saved many colonies, as they had not a pound to spare in May.

A little too much is no disadvantage, for the more they have on hand in the Spring the earlier and faster do they rear young Bees. The form of the hive is more a subject at issue than the size. I have used both shallow and deep frames, and am convinced that the latter are preferable and would now make all frames as near 14 inches deep by 12 inches wide, as possible; but when this shape is used, a bar across to support the comb *while new* is very necessary.

Bees naturally cluster *below* their stores, and the heat of the hive then ascends where the honey is, and it is free from frost when the Bees go up to get it. In the shallow form, they are compelled to cluster at the sides of the hive, and then, in severe weather, the honey is always cold. I have seen whole colonies die in these hives, leaving an abundance of honey. They simply could not get it without freezing. In the instances of this kind which have come under my notice, too much draught had been allowed in the hive, by having the entrance open below and the holes open on the top. *To Winter safely out of doors in any hive, the entrance should be closed so as to admit of the passage of only one Bee at a time, and the cap should be filled with straw or corn-cobs to absorb all moisture, and but one hole be left open.* Winter passages, as they are called, should be made. These are holes an inch in diameter, two or three inches from the top, made in each comb. Through these the Bees can pass without being obliged to go over and under the frosty combs, to reach their stores. I have found little trouble in making Bees build straight combs. I may say I have had none, for since the first season I have had no crooked combs. The triangular guides regulate them usually, but if straight-worked comb can be obtained and pieces fastened in a few frames of each hive, it will aid them. After one has a few hives filled with straight comb, so that one frame can be given to each new colony, there will be no further trouble, if pains be taken. There will be uneven places, or pieces of comb made thick; these should be cut down and regulated as soon as perceived—*using a knife dipped in hot water for that purpose.* It must be borne in mind that it is not enough to have the combs so straight that they can be taken with care out of *their own* hive and replaced there; to reap the full advantage of the movable-combs, every one must be straight enough to fit in any place in any hive. For this reason also, whatever form or movable-comb is used, they should all be alike; *every frame should fit every hive.* One who has never tried it can not imagine the trouble connected with the Management of 50 or 100 hives of different sizes and forms.

The matter of size, shape, and model should be decided with due care, and after Bees are put into some of them no changes should be made, even if they seem to be for the better. I would not be understood as advising any one to make or use any form of movable-comb hive without buying a "patent right." "The laborer is worthy of his hire;" and when a lifetime has been spent in bringing to perfection so valuable an invention as this, all the better for its simplicity, the inventor has a right to his reward.

No one should attempt to make a hive without a model, unless he

has had sufficient experience in Bee-Keeping to enable him to know just what he wants. In every case they should be well made. The first dozen movable-comb hives which I used I came near discarding, simply, as I now know, because they were so badly made, of unseasoned lumber, that no part fitted as it should.

How to Change Bees Without Loss from Common to Movable-Frame Hives.—The best time to do this is about the season of swarming, which season varies with the latitude and climate. In the Northern States, June is the month of swarms; in the Middle and Southern States they come with early and abundant bloom.

About the time when swarms are expected naturally, take the hive which you wish to transfer, and blowing a little smoke into the entrance, remove it a rod or more from its stand, leaving an empty box or hive in its place, into which the Bees that are out in the fields may gather. Invert (turn bottom up) the hive which you have moved, and put over it an empty box or hive, as near the same size and shape as possible, and stop all holes or cracks between the two with grass or weeds that may be at hand, leaving no hole large enough for a Bee to escape. Then with sticks keep up a sharp drumming on the bottom hive, at which the Bees, alarmed, will fill their sacs with honey and mount up into the upper hive. In from 20 to 30 minutes, most of the Bees with their queen will be in the empty box on top. The beginner need not fear driving too many; let all go that will. Then carefully set the box containing the Bees in a shady place, and take the old hive back to the place where it stood. While you have been driving, many Bees will have come back to their home, and finding it gone, will be roaming in and out of the empty hive in distress. These will at once rush into the old hive when it returns, and gladly adhere to it; then remove it to a location some yards off, when, as it contains many hatching Bees and eggs, the Bees will at once rear a new queen to replace the one just driven out, and in a short time be as prosperous as ever. Now place your new movable-comb hive, with its entrances all open, on the old stand, and spread a sheet before it; on this sheet empty the Bees you have driven into the box, and they will at once take up a line of march for the entrance of the new hive; if they gather there, brush a few in with a wing or twig, and they will call the others, who enter in a body and accept the new hive as their home.

You have now a nice swarm in your new hive, which will work as well as any natural swarm and quickly stock their hive. You have besides your old hive, in which the Bees are rapidly hatching, and in three weeks they will have a young queen and a goodly number of Bees, *but no brood* in the combs. Therefore in three weeks repeat the process of driving out the Bees; and after this is done, split open the old hive, or carefully take off the side, and fasten all straight nice pieces of the comb into the frames of a movable-comb hive;—a little melted resin will help hold them in place, or they may be kept in place with thorns. Comb need not be rejected because it is old or black, as, if it is straight and free from mould, it is quite as good to rear Bees in, or to store honey for their use—indeed, it is proved that old comb is better than new for these purposes. No drone-comb should be put in the frames. This may be known by the larger size of its cells.

Arrange the frames containing comb in the hive, set it in its

place, and empty the Bees on a sheet in front, as before described. They will soon securely fasten the combs, and work on all the better for this necessary disturbance. To the novice it may seem incredible that Bees should be thus driven from hive to hive and directed as you please, but it is now done every day through the Summer, by hundreds of Bee-Keepers, who find not only that it may be done without loss, but great profit. After Bees are once in movable-comb hives, little change need be made when all is well with them; their great advantage consists in the power they give their owner to discover when anything is wrong, and apply the remedy, as also the facility they afford for taking surplus honey from the Bees in nice shape without trouble.

Storing Honey in Boxes.—In Spring and early Summer, however much honey Bees may gather, they do not store it for future use; seeming instinctively to know that supplies will then come from day to day. At this season most of the stores that they gather are consumed in the rearing of brood. After swarming-time they gradually decrease the brood rearing, and then their instincts prompt them to gather, industriously, supplies for the Winter. If advantage be taken of this instinct by their owners in all ordinary seasons, a surplus of choice honey may be obtained. It is not uncommon for experienced Bee-Keepers to secure an average of 100 lbs. from a number of colonies,—and yields of 160 lbs. and sometimes more, have been taken from single ones. This is independent of the necessary honey which must be left with the Bees for Winter, and it is not taken in the old barbarous way, by killing the busy workers. Hives are so arranged that, as the Bees choose to store their purest honey near the top of the hives, it is here that the boxes are put on, in which it is desired to have them store it. Nothing is gained by putting on these “supers,” as they are called, too early. In cool Spring weather they are injurious, for they allow the heat to escape from the main chamber, which at that season is necessary to develop the brood. They may be placed on usually about the time that fruit-trees blossom. Hives should be so arranged that, when one set of boxes is partially filled, they may be raised up and another placed below them, and then the Bees extend their combs into these new ones, and work in both at once. They are often known in the height of the gathering season, to be storing in 16 boxes at once, each box containing, when full, 6 lbs. As one of these boxes is filled, it is removed quietly and an empty one slipped into its place. If the full one is carried away from the hive, or into a dark cellar and left for a time bottom upwards, the Bees will all leave it and return to the hive; and a piece of cloth or paper can be pasted over the entrance to the box, when it may be kept any length of time. A box is more easily examined when one side at least is made of glass; the honey also looks nicer when offered for sale. It is thought less honey is stored in them, if partly of glass, than when made wholly of wood, and also that the Bees work more readily in boxes made large, so that one shall take the place of four on a hive. For market, however, the small glass boxes are always best. If pieces of honey-comb, clean and fresh, are fastened in the boxes with a little melted wax and resin, the Bees commence more readily in them,—they seem to like a “start in life.” Boxes that are only partially filled, when frost puts an end to the gathering season, should be taken off and carefully preserved for another year, when the Bees will complete them.

When there is a market at home for honey, it will be found best to substitute sections filled with small frames, instead of glass boxes on top of hives, for surplus honey. Other things being equal, the Bees will store more honey in these frames than in boxes, and for home market these little frames, containing from 1 to 2½ lbs., will always be in great demand. Honey in them is not as easily shipped to a distance. For home use also, this form is very desirable, and those keeping only Bees enough to secure their own honey, will find this the best way to have it stored.

Wintering Bees.—Bees are natives of warm climates and their instincts are given them for their protection there. When kept where the Winters are severe, or where they are variable with periods of extreme cold, they should be protected in some way. Bees cluster compactly together in Winter, and thus maintain their proper temperature. It requires numbers to do this—a small cluster cannot keep up the requisite heat for safety, they therefore freeze. If a thermometer be thrust into the centre of a colony of Bees of a proper size, on the coldest day of Winter, the mercury will rise to Summer heat. The Bees are constantly changing, those in the centre moving outwards and the others taking their places. If a Bee, in a cold day, gets away from the cluster it is chilled and can not return. In the coldest weather they remain in a semi-torpid state (*semi*, half), and use but little honey. If a swarm is large enough, it can not perish from cold, but many starve with a plenty of honey in the hive, if it is located where they can not reach it. Many more are destroyed every season by the moisture of the hive which accumulates in the warm days, and which, by a sudden change of weather is turned to ice in the entrances, thus shutting out the air.

I consider the requisites to successful Wintering in the open air to be, abundant stores, with Winter passages through the combs, a large colony of Bees, and upward ventilation secured without a draught of cold air passing through the hive.

Under any circumstances it has been proved that Bees consume much less honey when protected in Winter. A hive weighing 60 lbs. in the fall of 1863; Wintered out of doors, weighed only 15 lbs. the 1st of April, while 20 kept in the cellar the same three months lost on an average, only 5 lbs. each. Again, 6 hives Wintered out of doors lost an average of 29½ lbs. each in three months, while 20 in the cellar, the same length of time, lost an average of only 5½ lbs. Figures like these show clearly that it pays to protect Bees in Winter.

The time of the year when Bees consume the most honey is in the Spring months, while raising brood fast. The more honey they have on hand in March and April, the faster they will rear young Bees, and the more workers will be ready to gather the harvest from fruit blossoms. The Bee-Keeper who leaves his Bees only what honey they can consume, being satisfied if they barely "live" through the Winter, is as foolish as the farmer who allows the team on which he depends for a Summer's work to be poor in the Spring and short of feed. To do a season's work in good shape, a colony should have plenty of old honey on hand until swarming time. To secure this end, leave from 30 to 50 lbs. in each hive in the fall, and then protect them in some way.

I have Wintered mine very successfully for six Winters, in a dry and moderately warm cellar, where the thermometer usually is about

30° above the freezing point. Here they are perfectly quiet, not a sound comes from them; they seem to remain torpid. I try not to keep them there over three months, but the want of a proper day in which to put them out has obliged me *twice* to keep them in four months, and no bad results followed. Where many hives are kept, the honey saved in one Winter will pay the expense of a house to keep them in, if no good cellar is at hand. Such a house should be dark and tight, and the hives placed on shelves one above another.

(For the proper manner of storing them in the cellar, see Col. Horr's INSTRUCTIONS, given in the first part of this subject.—AUTHOR.)

A warm, still day should be selected in which to put them out again in Spring. Some are very careful to place them just where they stood before, but this is not important. When leaving the hive for their first flight every Bee marks its location, and if they do remember, as some assert, the old spot, they wisely prefer the new place.

[Experience in Wintering the past cold Winter (1871 and 1872) in *some cases*, and localities, has been in favor of leaving Bees on their Summer stands, either protecting with chaff or a piece of blanket. I mention this for the benefit of those who have no suitable cellar.]

Feeding Bees.—The best substitute for honey that I have ever found in feeding Bees is sugar candy. The sugar should be mixed with water and boiled until it strings, and then cooled in thin cakes. The Bees take no more of this than is necessary to sustain life, yet will never starve while they have it. I have tried feeding Bees to induce them to rear drones early, and to stimulate them to swarm early, but with no satisfactory results. When I had few colonies, I have fed weak ones to save them; but find it poor economy, under any circumstances, to keep a stand of Bees, that require feeding—far better to unite all the weak with the strong ones.

In some sections of the country it is a great help to Bees to feed them with rye meal before the first pollen-yielding flowers come. Where I live there is generally found a great deficiency of Bee-bread in the majority of hives in the Spring, and here the advantage of rye meal feeding can hardly be over-estimated. As soon as the Bees fly freely in Spring, put the meal in shallow boxes or troughs, a rod or two from the apiary, and attract the Bees to them by pieces of empty comb laid near them. They soon learn the way to it and take it eagerly until flowers come, when it will be left untouched. I have had one hundred and fourteen pounds of meal carried away in one day. I have the rye ground and not bolted. Wheat flour will be taken by them, but not as readily. Meal-fed Bees will send out larger and earlier swarms than others, because the abundance of Bee-bread encourages the rearing of brood.

Artificial Swarming.—It is no longer a matter of doubt that the natural swarming of Bees can be prevented entirely, and yet such an increase secured as may be desired by artificial means. Some Bee-Keepers still depend on natural swarming, but my experience teaches me that the only sure way to keep Bees with a certainty of regular profit, is to take the matter into one's own hands and secure a moderate yearly increase, and at the same time, more or less surplus honey, according to the season.

All admit that early swarms are the most profitable ones. How it may be in other sections of the country I can not say, but in Iowa,

Bees prepare to swarm every year by the latter part of May. At that season I find in every strong hive partly finished queen cells and young drones; yet not one year in ten do we have more than an occasional natural swarm at that season. The reason, I think, is this: Near the last of May, we have almost every year, a few cold days, and these cause the Bees to destroy their queen cells and to cease preparations for swarming. When it is again warm some colonies prepare anew and then throw off late swarms, while others make no further attempt that season. For the last 4 years I have made all swarms the last week in May or first of June, and my new colonies fill the hives in many cases before my neighbors' Bees swarm naturally. The 2 or 3 weeks thus saved at the right time are of the utmost importance. Natural swarming has other disadvantages besides being late. The watching for their motions involves a great expense of time and anxiety where many hives are kept. Every year, too, many natural swarms go to the woods in spite of all care, while an artificial swarm, properly made, never does. Some colonies will refuse to swarm at all, and others will swarm until the parent hive is worthless.

It is not difficult to make swarms in the common hive, but with movable combs it is less trouble to make an artificial swarm than to have a natural one.

The danger is that one just commencing to use these hives is apt to overdo the matter. It is so hard to convince any one without *experience*, that he is not growing rich in proportion as his colonies increase in number. If movable frames are not to do the person using them more harm than good, a thorough acquaintance with the internal economy of the Bee-Hive is necessary. This is precisely what beginners can not acquire at once, and yet they are often unconscious of their ignorance. In this, as in every thing else, the more one learns, the more he feels his deficiencies. I have usually found that Bee-Keepers venture less the second year of their experience than the first. I advise all who commence with the movable-comb hives to be contented with a very moderate rate of increase until they have experience to aid them. In this matter, truly, "He that hasteth to be rich shall fall into a snare."

In the early days of my Bee-Keeping, I reasoned thus: Since the queen is the only one that lays eggs, the more queens I have by the first of June the faster my Bees are increasing; for certainly 2 queens can multiply Bees faster than 1. I therefore aimed to have as many as possible, early. I now see the matter in a very different light; for while it is true that 2 queens *can* lay more eggs than 1, it is not certain that they *will*. On the contrary, I find, invariably, that the increase of brood is in proportion to the strength of the colony. If a queen in a weak colony should lay many eggs, they could not be reared when hatched, for want of honey and nurses. If many eggs are laid in such hives, they are destroyed, some say eaten, by the workers. The queens seem to have the power of increasing or decreasing their laying at will. If a queen be taken from a small colony and placed with a larger and more populous one, she soon increases in size and lays freely.

Examine a weak hive, poor in stores in the Spring, and you will find but few cells of brood, while a strong one in the same apiary and under the same circumstances of season and weather, will have sheets

of comb filled with it in all stages. Exchange the queen in these 2 colonies, and 1 will increase and the other decrease her laying. If this fact is borne in mind, it will be understood why one strong colony will raise more brood than several weak ones, and that it is more profitable, especially in Spring, to have many Bees in 1 hive than to divide their strength as is frequently done. Under no circumstances is there either pleasure or profit in weak colonies. The more of them a man has the less he will like Bee-Keeping.

One plain rule should be borne in mind in artificial swarming: "Never cripple the strength of the colony where the queen is to remain." As soon as you do this her laying diminishes. If she is driven from the hive with the new swarm, have the largest part of the Bees with her in the new hive. If she is left in the old hive, leave abundant stores and young hatching Bees with her, and she will be stimulated to increase her laying to replace the Bees taken. It is wonderful how many Bees, eggs, and brood can be taken from 1 queen in a single season, if she is left in a strong hive, well provisioned.

Instead of dividing hives, as some do in artificial swarming, I now prefer to take brood and Bees at different intervals from hives, as they can spare them, and with these build up new colonies. For instance, you have 6 swarms in movable-comb hives. No. 1 you will not touch, but from the remaining 5 you take in succession 2 frames, each from near the center of the hive, placing empty frames in their stead. Shake the Bees off the frames, being careful that you take no queen on them.

Place the 10 frames thus obtained in a new hive; then remove No. 1 to a new place, a rod or even move away, and set the hive containing the frames in the place where that stood. This operation should be performed at a time of day when many Bees are in the fields, and these as they return, will crowd into the new made colony and labor in it as well as in their own. The colony having no queen will proceed to raise one, as they will find plenty of brood for the purpose. If, when just made, a young queen can be given them, raised in a small hive, you have a safe, sure way of increase. The hives from which the frames of brood are taken will not be crippled by it, but, in many cases, will be actually the better for it.

This operation can be performed again in 2 weeks if desired. The hive which you remove will not lose as many Bees as if it had swarmed, but will soon be as populous as ever, and usually, will have no inclination to swarm that season.

Two things are to be avoided in making new colonies. One is, never to leave many Bees in a hive which is queenless, and raising a queen. If there are too many Bees in a hive which has no queen, they store honey in the combs where brood should be, and after the new queen is ready to deposit eggs she is driven to the outer combs for empty cells, and her brood can not be as well cared for. I have seen many hives suffering from this cause. Again, never leave a queenless colony large enough to build new comb, as all the comb they build until they have a queen will be, invariably, drone-comb.

Many ways of making new colonies without disturbing the queen or diminishing her laying, will suggest themselves as one becomes familiar with the business. If care be taken never to weaken colonies containing queens, and if the young queens are reared for the new swarm in small hives, the number of colonies can be increased four-fold more safely than they can be doubled in natural swarming.

Whichever way you practice, *do all of it early*. Better far to leave the Bees where they are than to make a swarm late in the season.

Swarming, vs. Non-Swarming.—There has always been a class of Bee-Keepers who have not cared to increase their Bees, but have simply wished to keep a few colonies in the best way to obtain honey for their own use, and who have neither the time nor disposition necessary to an extended business. To meet their wants, numerous Bee palaces and non-swarming hives have been invented, which have all proved failures. Great yields of honey have been obtained in these hives for 1 or 2 years, and then the Bees usually died out. The reason is obvious; for, if swarming is prevented, some way must be provided to renew the queens every 2 or more years, for swarming is the method by which *nature* arranges this.

The high price of lumber for hives, and the great demand for honey, in 1864, made it a good time to try what could be done in the way of restricting swarming, or preventing it altogether. I had tried the non-swarming blocks in the Langstroth hive, but found it impossible to make them of practical use. If kept close enough to prevent swarming they interfered much with the flight of the workers; besides, they did not in any case prevent the preparations for swarming, which consume much time and honey.

[Within the past year another improvement has been made in Bee-Hive fixtures, without mention of which this part of the subject is now incomplete. Mrs. Farnam's non-swarming attachment accomplishes the object which the movable-blocks and other non-swarming inventions attempted to do, but failed. All of these, if they were so adjusted as to keep the queen in, prevented the workers when loaded from passing freely, and thus made confusion.

This attachment accomplishes the result by compelling the Bees to go out one way and return the other—the way of egress being so nicely adjusted that empty Bees pass out freely, yet no queen or drone can escape. The loaded workers go in at another passage.

I find this most effectual in putting a guard over the hive so that it can not swarm before I am ready to divide it, and one who wishes no increase of numbers, but instead, more surplus honey, will find this simple attachment to any hive invaluable.

In preventing a surplus of drones, it answers an excellent purpose, and I use it as a valuable aid in crossing stock, when rearing queens. With it I can shut in any drones I please, while choice ones of any stock desired, fly freely].

(~~See~~) Any person desirous of testing the question of the "Non-Swarming Attachment," for themselves, or of ordering the "Italian Queen," can address the "Italian Bee Company," of Des Moines, Iowa, Mrs. Ellen S. Tupper, and Mrs. Annie Savery, being the partners; and I will add, that I fully believe, that all who deal with "the Company," will receive *perfect* satisfaction at their hands.—AUTHOR).

Early in the Spring, I made some colonies very strong in numbers, and rich in stores, having them as strong as they usually are in June, hoping in this way to secure early box honey. I failed in this; for though the Bees commenced working in boxes, they stored slowly, and not a box was filled before June; but they all reared quantities of brood, and were ready for very early swarming.

Ten of these doubly strong colonies I treated in this way: I took from the center of each hive, every week in June, a frame of brood

and honey, supplying its place with an empty frame. Two of these swarmed in spite of this, and as the frames taken out were used in forming new colonies, it would not have been called a "prevention of swarming" if none had swarmed. Those that did swarm were, at that time, storing in 16 boxes each, proving that Bees do not migrate always for want of room.

In June, I took the queens from 20 of these strong colonies, replacing them with young ones just commencing to lay, or with queen cells ready to hatch. Not one whose queen I changed in this way swarmed, but all worked on seemingly with new energy through the season, care being taken to give them ample room in the main hive for brood, and to change full boxes for empty ones as often as necessary. The quantity of honey obtained from each of these hives varied much. The least obtained from any one was 50 lbs.; the greatest yield from any one was 96 lbs., the average of each being 62 lbs. The colonies which swarmed that year all made some honey in boxes, the average being 15 lbs. The swarms from these also stored honey, the average being 30 lbs. Thus we have an average of 45 lbs., 15 from the parent hive, and 34 from the swarm, from the swarming, against 62 lbs. from the non-swarmed hives. From the former a good colony was obtained to offset the 17 lbs. more honey averaged from the latter. These experiments were all made with the common Bees.

I had previously made an ingenious calculation of this sort: "The Bees consume 20 lbs. of honey in forming 1 lb. of wax. The empty comb, in a hive the size I use, (2,000 cubic inches), weighs 3 lbs. Thus 60 lbs. of honey are consumed in making the empty comb alone to furnish the new hive. At least 60 lbs. more will be used in storing the comb and raising the brood to populate it, and 30 more to furnish it with Winter store. This gives 150 lbs. of honey spent on the new colony. Supposing the Bees to have remained in the old hive, this 150 lbs. might have been stored in boxes." Now this calculation is all true, but the fact remains that the Bees will not put as much honey into boxes as they will gather to stock and store a new hive. The empty home stimulates them; their necessities drive them; and they "work with a will" under such circumstances, as all know who have noticed the untiring energy of a new swarm.

In the Summer of 1865, I tried this plan again on a larger scale, giving to each of 37 hives, in May and June, a young queen in place of an old one. Only 1 of these swarmed, and, in that instance, I was quite sure that they destroyed the queen given them and raised others, and this caused them to swarm.

Writers in Germany assert it as an established fact, "that changing an old queen in any hive for a young one of the current year, *before preparations for swarming have been made*, will prevent it for that year." I am not prepared as yet to say that this will always be effectual, nor can I assign any reason satisfactory to my own mind why it should *prevent* swarming. I have given the results of my experiments, and they certainly go far to prove the fact. I would recommend all who are Italianizing their Bees to try this plan, and see if like results follow from their change of queens. If swarming can be prevented in this way no better method need be sought, as it secures young and healthy queens in all hives. The rearing of queens and exchanging them is a very simple matter, and if there is a demand for queens, those taken away can be sold instead of being destroyed.

The price of honey and the demand for Bees in different places must decide which is most profitable to raise, Bees or honey. In most places I think Bee-Keepers will find it pays best to secure a moderate increase every year by making 1 swarm, very early, from 4 or 5 old ones. In this way, quite as much, if not more, surplus honey will be obtained as when there is no increase, and the value of the new swarms (whatever that is in your locality) is just so much extra profit.

To the class of Bee-Keepers who prefer the non-swarmling method, a statement from the German *Bienenzeitung* (or Bee Journal) of February 15, 1864, made by M. B. G. Klein; will be interesting. He lives near Gotha, limits his apiary to 80 hives, restricts swarming as much as possible, and unites such swarms as do come, with the colonies found to be weakest in the Fall; carefully preserves the combs, made by them for use the next Spring, and Winters them in the shallow, movable-comb hives; but does not say whether in doors or out. From 80 hives he obtained a profit in 1861 (a very favorable year) of \$601.00; 1862, (an exceedingly poor year) \$76.87; 1863, (a good year) \$246.96.

The average price of honey there is only about 8 cents per lb. of our currency. Though this may seem a satisfactory profit, it is small compared with what has been obtained from Bees when allowed to multiply in this country. I can not give statistics of the amount of profit from Bees in other States, but some results in Iowa far exceed this.

E. G. McNiel, of Tipton, Iowa, says: "I shifted 6 colonies of Bees out of logs into the movable-comb hive for a gentleman, in May, 1859; that year he increased to 24, and took 500 lbs. of honey. The next Spring he began with 18 weak colonies and increased to 46; this year (1860) he took off 1,000 lbs. of honey. In 1861 he increased to 60 colonies, and took off 2,200 lbs. of honey. In 1862 he increased to 104 stands, but it being a poor season, he obtained only 1,500 lbs. In 1863 he increased to 160, and took off 3,000 lbs. of honey. Thus he obtained 8,200 lbs. of honey and 154 colonies in 5 working seasons.

I am not prepared to give an accurate statement of each year's gains, either in honey or stock, since I commenced Bee-Keeping; but in the Spring of 1859 I purchased 4 hives for \$20, 2 of which died before flowers came. In the Autumn of 1865 I was offered \$1,500 for my stock of Bees, but declined selling, as they were worth much more than that to me. Thus we have, in 6 seasons, an increase from \$10 to \$1,500 in the capital alone, with no account of honey sold each season, or of Bees sold repeatedly.

During the Summer of 1864, I sold from 22 hives \$409.20 worth of honey. Two of these seasons are called the poorest ever known in Iowa. What branch of agriculture or horticulture pays better than this?

Uniting Bees.—In the Fall, in every apiary, some weak stands will be found. Some will have too few Bees, others too little honey. In the old-fashioned Bee-Keeping, such colonies were destroyed by fumes of burning brimstone and the honey and wax appropriated. This is a very expensive way, but, with the movable-comb hives, not a Bee need be lost and all comb may be saved for the use of the Bees in the future. All can see that it is poor economy to let Bees live until they consume all the honey, and then die of starvation; better the old way than this. But if 1 containing enough honey but too few Bees, be united with 1 that has numbers and but little honey, they

make 1 valuable stand. *So two weak ones united, make one good one;* for a large colony does not consume nearly as much honey, proportionally, as a small one. In the Spring, too, in spite of all care, some will be weak; and these are much more profitable if united with strong ones than if nursed until flowers abound.

Bees can be easily united, and will work as 1 colony. Some sprinkle both with sugar-water scented with peppermint, or other strong odor, to give them the same scent, and then put both in 1 hive. I find it easy to do it without this, and never have any difficulty in the operation.

I alarm the Bees of both hives which I wish to unite, then leave them a few moments to fill themselves with honey. I then put 1 of them over an empty hive, (my hives have movable bottoms), take each frame out, and shake or brush the Bees into the hive below. When all are out, set the other in its place and proceed in the same way. The Bees all brushed together thus in an empty hive are too much frightened to quarrel. I then arrange all my frames containing honey in 1 hive, and set it over the 1 in which the Bees are. They all go up rapidly and take possession of the frames like 1 colony. One of the queens, will, of course, be *killed*; so if you have any choice between them, find out the 1 you care least for and destroy her.

Every empty comb should be saved; indeed, no piece of good worker-comb should ever be melted for wax—it is worth \$5 a lb. in honey boxes, or fastened into the frames for the use of the Bees. I once tried an experiment which convinced me of the great saving in providing Bees with empty comb when it is possible. I had 2 large natural swarms come on the same day. One of them I put into an empty hive, and the other into 1 well filled with comb. The 1 in the empty hive filled it up for Winter, but stored no surplus honey. The other not only filled the combs, but stored 52 lbs. of honey in boxes. There was no apparent difference in the size or circumstances of the 2 swarms. The value of the comb, melted for wax, would not have exceeded \$1.00 at that time; while the honey sold, at 15 cents per lb., for \$7.80. Straight worker-combs, in movable-frames, are better than cash capital to a Bee-Keeper, and should be most carefully saved. Combs must be kept until wanted for use in a cool dry place, to guard against mould. Mice are very destructive to them. I hang mine on a rack where mice can not get them, and where they have abundant air. Two or 3 frames filled with worker-comb, given to a swarm when it is first made or hived, are a great help, and cause them to build all their combs straight.

Honey Resources.—Every Bee-Keeper should know the honey resources of his range. They differ in different localities. My apiary is near a river bottom, where the Bees have a large forest range, and here there are few days from April to October in which they do not find honey. In many localities, much may be done to increase the yield of surplus honey by keeping buckwheat in blossom most of the Summer. Germans estimate the yield of honey from 1 acre to be from 320 to 350 lbs. This crop, however, yields much more honey some seasons than others. Bees do not like buckwheat when they have anything else; and several seasons when I have had acres of it sowed for them, I have obtained no pure buckwheat honey, while another year the buckwheat sown from the last of July has added many pounds to my surplus boxes.

White clover yields much honey for several weeks, and where it abounds Bees are sure to do well. The Alsike or Swedish clover, where it has been introduced, is of great benefit. Black, or common Bees can not reach the honey in red clover; the Italians can, and do, under some circumstances. In the latter part of July, 1864, my common Bees were idle and losing weight daily; but my Italians steadily stored honey in boxes. I took off 26 lb. boxes from the Italian colonies, while the others did nothing. It was evident that they were obtaining it from some source not accessible to the common Bee. On visiting fields of clover at various times I found it always swarming with "yellow jackets." On account of the drought the blossoms were smaller that year than usual. Late in September and early in October, in the same year, I had several boxes filled by the Italians after the common Bees had done storing; and this honey, I doubt not, was obtained from the second crop of red clover. In some sections, *rape* and *mustard*, if sown for the purpose, would come in and fill up in time of scarcity.

It is recommended by some to cultivate borage for Bees. It undoubtedly has honey in it, and is a favorite with them. But there are few regions of our country where it will pay to sow it. It is an annual, and is easily grown. It is better than weeds that have no honey, if that can be called praise. If any one watches his Bees closely for 1 year, he will discover at what date they are idle, and he should arrange for another season to have some honey-producing plants in blossom just when they are needed. By this way one may add many pounds to his surplus honey.

(The "Italian Bee-Company," before referred to, furnish seed of any, or all of the Bee-plants, known to be valuable.—AUTHOR.)

In Europe it is customary to move Bees from place to place, as different crops come in bloom, and much attention is paid to raising crops which, in addition to other value, yield honey. In few parts of our country will this ever prove necessary. Wherever I am acquainted with the resources, it seems to me more necessary to have strong colonies at the right time, if we would secure large honey crops.

The vicinity of Bees to water is a matter of more consequence than would be supposed by one who is not acquainted with their habits. It is asserted that a colony of wild Bees is never found elsewhere than near a stream, lake, or river. Bees use much water, both in preparing Winter food for their young, and when they themselves are secreting wax. If no water is near the apiary, shallow troughs, with floats in them, should be kept constantly filled with water for their use, and in this way much time and labor be saved them.

The Bee Moth.—The injury done by the Miller, or Moth, and its progeny of worms has been overestimated. Undoubtedly, before its advent, it was comparatively easy to care for Bees. Then weak swarms could be saved and nursed into good stocks, while now they are quite sure to be destroyed by Moths. In all my experience with Bees I have never yet seen a good or valuable stand injured by worms. I often find them in such hives, but the Bees gnaw them out and they do no real harm. But if a hive becomes queenless, or reduced in numbers, it is soon overrun. In every stock that I ever examined, something was wrong before it became a prey for worms.

Much time and trouble may be saved to the Bees by looking out and destroying every worm, especially in the Spring. As they have

four generations in one season, every one destroyed, then, sensibly diminishes the number. Many of them hide in "patent Moth-traps," and it is a good plan to catch them; but I have seen so many allowed to hatch there before they were caught that I can not recommend them. To careless Bee-Keepers, they are worse than useless; and painstaking ones do not need them. I often hear it charged that the Miller is much worse in movable-comb hives, and has "much increased where those hives have been introduced." This may be, and probably is true, though not from any fault in the hives. The principle they involve is a perfect protection against the Moth, but they have made the multiplication of colonies so easy that, with young beginners, many more weak colonies abound. Where a hive contains more combs than the Bees can cover, the Millers have a fine chance; and where a large hive has but a small colony in it, the other half is a fine shelter for them. For those, and those only who have learned by experience that the only safe way is to keep Bees strong in numbers, under all circumstances, the Miller has no terrors. Patent-hive vendors who know nothing of the natural history of the Bee and care less about it, so that by some plausible story they dispose of a right, are the worst enemies of the Bees that I have every known.

Hundreds of valuable stocks have been ruined, within my own knowledge, by being transferred from one hive to another in a wrong way, or at a wrong season, or by being divided without regard to the principles which should govern the matter to make it successful. When we can enlighten people on the science of Bee-Keeping, and awaken an intelligent interest in the subject commensurate with its importance, we shall develop one of our great natural sources of wealth to an extent we have never yet approached.

The Italian Bee.—Has now been so generally introduced into all parts of our country, and is received with so much favor, that it may seem superfluous to touch upon it here; but as I still see various queries as to its value compared with the common Bee, I may be allowed to give some statistics. It is quite common to see accounts of the great yield of honey from a single stand of Bees; but isolated cases of this kind prove nothing. The only fair way to decide the matter is to take Bees side by side with the others, under the same circumstances of season, pasturage, age of queen, and Management. This has often been done, and always with results overwhelmingly in favor of the Italians.

In the Summer of 1863, I had but two stands of Italian Bees, and those not pure. One of these stored 110 lbs. of honey, besides giving three swarms. The other gave two swarms and stored 96 lbs. of honey. All the swarms filled their hives, and some of them stored honey in boxes. I had, the same season, 56 hives of common Bees; but not one of these stored a pound of surplus Honey, though a part of them were divided. That was the poorest honey season ever known in this section.

In the Summer of 1865, I averaged, from 9 Italian colonies, 119 lbs. each. The best of these shows the following record in my journal: One full swarm taken from it the 20th of May; 156 lbs. of honey taken in boxes; stored by the swarm, 70 lbs.; from the swarm there came a swarm, August 15th, which filled its hive and partly filled 2 boxes. Thus we have 236 lbs. of honey, besides 2 large swarms, from a single hive! The same summer I had 30 stands of

common Bees, which I prevented from swarming, yet with no increase from them. I obtained only 1,655 lbs. of honey, or on an average about 56 lbs. to each. The largest yield from either was 96 lbs.

In 1865, I had an average of 93 lbs. from 6 Italian colonies, all of which were divided once, and much disturbed by taking brood from them to rear queens. During the same time I did not take a pound of honey from any colony of common Bees, though I divided them all, and gave each an Italian queen.

I claim that facts like these are conclusive. All my Bees were Wintered alike and all in the same kind of hives, were made as equal in strength in the Spring as possible, and enjoyed the same range. I might quote pages of testimony to the same effect from others; proofs abound wherever the Bees have been tried in the same way. If I am asked the reasons for so decided a difference, I can hardly give such as are satisfactory. The Bees do not differ much in size, but the Italians are more industrious; they work earlier in the morning and in colder weather. I am not prepared to say that they are more hardy. If they Winter better, as some assert, I think it is because the queens lay later in the fall, and thus keep the colony strong in numbers until cold weather. They have access to flowers which are useless to the common Bee. That their bill is longer, any one can prove to his satisfaction in this way: Fill a tumbler with diluted honey, or sugar-syrup, cover it with wire-cloth, or perforated tin; have it so full that the contents touch the cover, and set it near Bees of both kinds. After the black Bees have taken it as long as they can reach it through the wire, the Italians will be found still upon it, filling their sacs and evidently lowering it.

Not only do they store more honey, but their queens are much more prolific than the black queens. It is wonderful how much brood may be taken from one of these queens. From one hive, last season, I took 32 frames of brood and eggs at different times from which to rear queens, and from another, 36 frames, yet both hives are as strong this fall as any of the common ones from which only one swarm had been taken. As 10 frames fill one of my hives, it will be seen that this is equal to three full swarms from one, and more than three and a half from the other.

Changing from Common to Italian Bees.—The ease with which this is accomplished brings Italian Bees within the reach of all, in every part of our land. Pure queens are raised by reliable persons and sent, as ordered anywhere with perfect safety. If it was necessary to purchase and transport full colonies, the work of introducing the new variety would be much more difficult and expensive. Now any one who is convinced that the Italians are profitable, can order one or more Italian queens and from them raise others to supply all his hives. Many and full directions have been given how to Italianize, but still the plain, simple way seems to be little understood. Having been engaged in the work for some time, I shall try to give some hints which may be valuable to those commencing it.

The queen being the mother of the whole colony, it follows that if a pure Italian queen be given them instead of their own, all the Bees reared after the change are Italians; and as the Bees already there die off they are replaced by the others, and in a short time the stock is fully Italianized. By a *pure* queen, I mean one of pure stock, and which has been fertilized by an Italian drone. There has been much

stock reared in this country which is *hybrid*. By this I mean the progeny of a pure Italian queen fertilized by a common drone. This in the *first generation*, is hard to be distinguished from the pure; but it soon degenerates. As the drones are *invariably* like their mother, those reared from such hybrid queens are *always pure*. This fact should be borne in mind, as it makes it comparatively easy to keep the stock right.

[With seven years' additional experience, I am not inclined to change my expressed opinion that the drones from a mother of *undoubted purity* are like herself.

Italianizing apiaries in the vicinity of black Bees has been rendered much more easy since it has been found possible to secure the fertilization of the young queens in confinement, and thus have them meet the very drone desired. Numbers of our best apiarians are succeeding in this, and every year the matter is made more simple and easy.]

The queen with which you commence should be pure beyond doubt. Purchase of some one who will warrant her, and whose guarantee you can trust—remembering that in the beginning you will be no judge of their purity. (It is questionable, in the Author's mind, if any more reliable source can be found, from which to "purchase," than of the company of which Mrs. Tupper is a member. See DIRECTIONS, in another place.) The Fall is the best time to purchase your queen, because she will then be ready for early operations the next season. Introduce her into the best and strongest colony you have, for safe-keeping through the Winter. If you have but a few colonies, the work for the next Spring is very simple. About the middle of May, if you examine the hive containing your Italian queen, you will find drones in all stages. Then take the queen out and confine her in a cage made by rolling a piece of wire cloth, four inches square, into a tube, tying it firmly, and putting a wooden stopper in each end. Next remove from another hive its queen, and having killed her, insert the queen cage between the two frames, and keep her there 48 hours. Then release her, and that hive has an Italian queen. The one from which you took her will preserve her pure drones with care, and immediately proceed to rear queens. In 10 days you will find from 6 to 12 queen cells nearly ready to hatch. Then take the queens from as many hives as you have queen cells and leave them queenless about 10 or 12 hours. Then from one of the hives take a center frame containing brood, cut a hole 2 inches in diameter; cut out one of the queen cells from the hive containing them, with a little comb each side of it, being very careful not to press or injure it in any way; dip the edges of it in a little melted wax and insert it in the frame, and put it back in the hive. In 9 cases out of 10 this cell will be gladly received by the Bees, and hatch in a few days. This process can be repeated with as many hives as you have cells, and if done by the last of May, or first of June, you may be quite sure that these young queens will be fertilized by Italian drones, *because you will have no others in your apiary so early in the season*. One or more cells must be left in the hive where they are reared, that it may be sure of a queen; and all your hives should be examined from time to time, to see that the cell in each hatches, and then to be sure that the young queens all lay at the proper time. I usually find them depositing eggs between the third and twelfth days after they hatch. If any

colony fails to secure a fertile queen in this way, insert into it, from the hive which now contains your Italian queen, a frame containing eggs, and from that they will rear others. Before doing this, look over all the frames carefully to see that they have not commenced cells from their own eggs.

After you have a fertile queen in each hive, watch the young worker Bees as they hatch, and if all, or nearly so, are slender in form and have 3 distinct golden rings, you may *hope* they are pure. If there is a doubt about any one, you can exchange it for another at your leisure. Bear in mind that the main thing the first season is to get a young queen in every hive, reared *from the one you purchased*. That accomplished, all your drones will afterwards be pure, and young queens reared from that time forth will be sure to meet pure drones. The following Spring your hives will have drones in them two weeks in advance of all black Bees in the neighborhood; and if yours are strong, and you make early swarms, the chances are much in favor of your queens being purely fertilized.

The second season of your operations all doubtful queens should be replaced; and if pains be taken you can easily have none but pure queens in your hives while the original queen which you purchased lives. I find the temper and disposition of the Bees a better test of purity than their markings. The Italians are more easily Managed, and less easily provoked to anger. If you open a hive of them and lift out a frame, instead of flying in all directions and getting in a rage, as do the black Bees, hardly a Bee leaves the comb—*all cling to it quietly until it is replaced*. Where you find them thus *clinging* to the comb you have one good mark of *purity*.

The only *certain* test that I rely upon is the color and markings of a queen's *royal* children, or the queens reared from her. The female Bee is invariably like the father, and the queens are the only *perfect* female Bees. If you rear queens from a queen, and they are well marked and colored, you may be sure she is purely impregnated.

I had a number of fine queens last season whose worker progeny were so well marked that I had little doubt of their purity. Yet on rearing queens from their eggs, they were not like their mother, and *their* eggs, when tested, produced queens hard to be distinguished from common ones. This fact will explain why the Italians, in careless hands, so soon degenerate. There is no need of this if the queen you purchase is pure, and you take pains the *first* season to put a queen reared from her into every hive you have; and, in the *second* season, to replace all which show impure marks.

The most difficult part of this process, as I have described it, and it is more easily done than described, consists in *finding the old* queen. At swarming time, the best season to do it the hives are, or ought to be populous; and to the beginner it seems a formidable operation to look the frames over, and find *one Bee* among so many. Place an empty hive by the side of the one you wish to examine; after opening the latter very gently, sprinkle it well with sweetened water. It is better not to alarm them by the use of smoke when you wish to find the queen. Begin near the center, and take out a frame, and look carefully on each side of it. If she is not on it, put it in the empty hive, and take out another, proceeding in the same way. If the queen is found on neither of them, spread a sheet before the hive which now contains the frames, and empty upon it the Bees that re-

main clinging to the hive. If she is among them you will see her as she passes into the hive. If you do not find her, return the frames to the other hive, examining them with care. I have often found the queen on the first frame I took out; and then, again, have taken them all out three times before seeing her. There is little difficulty in finding Italian queens; they are not disposed to hide, and their bright colors make them very conspicuous.

Those who are Italianizing large apiaries, or rearing queens for sale, need no advice in the matter, yet may be interested in some items of my experience. I have succeeded better in rearing queens in moderately large hives than in the small ones generally used for the purpose. I now have my nucleus hives, containing three frames, the size of my large hives. A hive containing 12 frames, which can be divided into four parts at will, is very convenient, the entrance into two of the parts being at the ends, and in the others at the sides. Such a hive is warmer than a single nucleus, which is important in the early part of the year.

If such a hive contains a pure Italian queen, and she be taken from it in May, there will be eggs in each of the four parts when the dividers are put in and from 30 to 40 queen cells will be started at once. In 10 days as many of these as you please can be cut out and given to the hives, but 4 or more should be left in it. The young queens hatched in these hives are very sure to mark their place when they go out for their excursions, as the size and entrance make it peculiar in appearance.

Much complaint is made that the whole colony is apt to go out from a nucleus hive when the queen leaves for impregnation and does not return; thus queen and all are lost. There is a sure remedy for this: Bees never desert a hive large or small, while there is brood in it. If, then, a frame containing eggs and larvæ be given to the small colony from another hive, about the time the queen will hatch, the Bees will not desert it. Some have trouble in making the Bees build more than one or two cells in these little hives. That is because they do not have a large proportion of *young* Bees in them. The young Bees of the current year are the ones that work the wax and build queen cells. They may be seen before they are 24 hours old at work on them. Keep plenty of Bee-bread and honey in the small hive, and supply it with water and young and hatching Bees, and you will have numerous cells.

Be always sure that, in the hives where you are rearing queens, there are no eggs except from a queen of undoubted purity. It has been declared impossible for Bees to remove their eggs from one cell to another, but I now know that they do so. Last year I put into each nucleus hive, a frame containing eggs, while the other combs, full of honey and Bee-bread, were those preserved from hives from which the Bees had been taken, and which had been all Wintered in a cold room. By no probability could an egg have been in these, yet repeatedly were queen cells built in them, and perfect queens hatched from them. I do not pretend to say how the Bees remove so delicate a thing as one of those little eggs without injury; but is it really more wonderful than some of their other operations?

I have reared queens every week from the last of April to the last of October, and could perceive no difference in size or coloring at the different seasons; but out of 18 reared in April last, only 2 became far-

tile; and of 22 reared in October, all but 4 were lost, while nearly all those reared in May, June, and July were impregnated.

I do not find the pure Italian queens larger in size than the common ones; but queens reared from a pure Italian mother, fertilized by a common drone, are often very large and handsome. The colonies of such queens are, in every respect, equal to the pure. All such queens may be safely preserved, as *their drones are pure*. But no queens should be raised from them, and if swarms issue from their hives the queens should be taken from them and pure ones given them, for *nothing pure* comes from a queen reared from such queens. No one should be contented to stop short of giving a queen *which will produce pure drones* the first season, to every hive he has, whether it be 1 or 100. This accomplished, your work is more than half done. The importance of this is manifest, for you will then have no common drones in your apiary the second season. When this is the case you can keep your own colonies strong, "swarm" them early, and have little to fear from outsiders.

So long as you have common drones, a large proportion of your queens will meet them. I raised 143 queens the first season, which became fertile, and though I had many Italian drones in a dozen hives, and suppressed the common drones as much as possible, only 26 of my young queens were fertilized by Italians.

It is said, and I doubt not with truth, that in all the Italian stock brought to this country there is a taint of impurity. This is of little consequence if we keep our stock pure. By exercising proper care, we can not only keep them as good as the original, but also do much to improve them. I have several young queens even more beautiful than those I bought, and queens reared from them are as fine as any I ever saw. Every one which does not produce pure drones should be replaced as soon as this is discovered, and those which are only hybrid may be changed before swarms are taken from them. All this requires care and patience, but it pays well to take this care.

In no way can the yield of honey be so sensibly increased as by introducing the Italian Bee into different localities. As it replaces the old variety a great change will be observed.

I can not think it wise for those rearing queens to sell, to send out any but those tested and prove pure. The practice of selling hybrid queens, or of sending those not tested, to those who are commencing in the business, promising to replace them if not pure, is a bad one. The beginner, who, perhaps, has never seen an Italian Bee, can not himself be a judge of purity, and in 9 cases out of 10 will be satisfied with what he gets, and rear from it. Though he will find any mixture of the Italian blood an improvement on his old stock, yet, in the second generation, he will have *nothing pure*, and be disappointed and discouraged. One had better pay a large price for a queen warranted pure by one whose reputation is at stake in the matter than to get a hybrid cheap, and find, in a year or two, that he has had all his trouble for little or nothing. I would advise every one purchasing a queen to clip her wings before putting her in a new home. It not only prevents her leaving the hive with a swarm at any time, but you are always sure that she is the one you bought, for Bees often destroy a queen for no apparent reason.

Best way to Rear Italian Queens.—If you wish to rear queens on an extensive scale, it is best to have 1 or more small hives to do it

in, as it saves the time of a full colony. A pint, or less, of Bees, will rear as many and as perfect queens, as a large swarm. To induce Bees to rear queens, it is necessary to have them queenless, and supplied with the means of raising another.

Some use small boxes, such as those in which queens are transported, to rear queens in; but I prefer small hives,—just large enough to contain 2 frames, of the same size as I use in my large hives.

When wishing to rear queens, take a frame from the hive which contains your pure Italian queens, and be sure that the comb has in it eggs, young larvæ, and hatching Bees.

Put this into a small hive, and with it another frame filled with comb and a supply of honey and Bee-bread. Then move some strong hive, which can spare a few Bees, a yard away from its stand, and put your small one then in its place. This should be done at a time when young Bees are flying freely, as they are about noon of any bright, warm day. Many of these young Bees will enter the new hive, and finding it supplied with honey and brood, enough will remain and start queen cells. If it is dry weather, a wet sponge should be placed at the entrance, which is all the care they will need for 8 or 10 days.

About that time it will be necessary to open the hive, and cut out all the cells but 1, for when the first queen hatches, the others will surely be destroyed. These surplus cells should be cut out carefully, and may be made useful by inserting them in the brood combs of hives from which the black queens have been taken. They will hatch there as well.

As in swarming, so in rearing queens, certain principles must be borne in mind in order to succeed, but when these are well understood, thoughtful persons can vary the operation as they please, if they do not go contrary to these principles:

1st. The queen rearing or nucleus hive must always be well stocked with young Bees, since these are the ones that build cells or work wax in any way.

2d. As these young Bees do not at first gather honey, or bring water, the little hive should be supplied with these necessities.

3d. No eggs from any queen but a pure one should be allowed in the small hive, for Bees can move eggs from one cell to another.

4th. When you leave a young queen in these small hives until she commences to lay, you should, about the time she hatches, give that hive a comb with a little brood in it. Unless this precaution is taken, the whole of the Bees may leave the hive with the queen, when she goes out to meet the drones, and so all be lost; but if brood be given them, they will remain in the hive; Bees never desert young brood.

If these directions are followed, it will be found very easy and simple to rear queens for any number of colonies.

If these young queens are impregnated by black drones, they will produce only what is called "hybrid" progeny. This, for purposes of honey-storing, is equally good with the pure Italian stock, but it soon degenerates. To secure pure stock, queens should be reared in early Spring, for then Italian drones appear several weeks before black ones are reared, and the young queens are sure to be impregnated by them.

Subduing Bees, Bee-Dress, etc.—I find a great difference between the Italian and common Bees in their irascibility, liability

to be excited to anger.—AUTHOR). The former are much more easily managed. Still the timid will do well always to use some precautions. Sprinkling with *sugar-water* is the best means of subduing them when you wish to open the hive. If you wish to find a queen readily do not smoke them, as it induces her to hide; but for any other examination of the hive it answers well. A wire hat with a deep curtain to it, and a pair of rubber gloves with gauntlets, make a perfect protection against stings. The gloves are very expensive, as they soon wear out from contact with the Bee-glue, or propolis. I find a pair of woolen mittens, with thumb and finger as knit for soldier's use, quite as good protection. They should be dipped in cold water before using. From these glue can be easily removed. A quiet, fearless manner, when among Bees, does much to prevent their anger. No stand should ever be made angry; they do not soon forget it, and after they are once enraged they are difficult to subdue.

Adaptation of the Business to Women.—Health is to be derived from it. The ancients called the Honey-Bee "Deborah, or she that speaketh." Would that its gentle hum might now *speak* to many women in our land, and awaken an interest in a pursuit so interesting, and at the same time so profitable. The quick observation and gentle handling, so requisite in the business, belong peculiarly to women, and there is no part of it which is laborious, or that may not be appropriately performed by them.

It has proved to me of great benefit. *I came west, twelve years ago, under sentence of speedy death from one of New England's best physicians, yet now rejoice in perfect health restored.* More than to all other causes, I attribute the change to the interesting occupation which has kept me so much of the time in the open air, and *paid me for being there.* I most heartily recommend it to others, who are seeking either health, or a pleasant and profitable employment.

(The subject of Bee-Keeping being of so much importance, I have deemed it best to give it a place in its regular alphabetical order, rather than among the Miscellaneous Receipts.)

Reports of Success in Bee-Keeping, from Ladies.—I taught, school for 7 successive years, and my health nearly failed. I had an invalid mother, dependant on my exertions, and must do something. Mrs. Tupper's essay fell in my way, and I read it with interest, and before night I owned 2 hives of Bees. That was 4 years ago. Last Summer I sold \$965.00 worth of honey, and 3 stands of Bees. I now have 44 good colonies of Italians. I don't teach. I stay at home with my mother, take care of my garden and my Bees and they "take care of me."—S. H., *Missouri, in Bee-Keeper's Magazine.*

[Could any better evidence be asked, for the soundness of my judgment in introducing Mrs. Tupper's Essay into this Work. Let others go and do likewise. Don't let the *colored* women outdo our *Yankee* women either. See next paragraph].

Colored Woman's Report of Success in Bee-Keeping.—I am a poor colored woman. I can not write myself. Three years ago I learned from a woman near me a little about Bees. I had 4 ~~hives~~ then—now I have 27, and I have sold honey enough to buy me a nice little lot, and I shall finish a house on it this year. I got a little girl to write this to tell you that it is all a notion that Bees sting colored people. I wish all of them had Bees. They can make money out of them, and can keep them as well as chickens.—*Bee-Keeper's Magazine.*

1. Bee Moths—Different Methods of Destroying.—Molasses mixed in vinegar, and set by the hive at night, and taken away in the morning before the Bees begin to fly, as they would get daubed in it, caught 1,000 Moths in 4 weeks. So says a correspondent of the *New York Evening Post*.

2. Another.—Take a pan, or other shallow dish, and put some oil into it, just at dark, as this is the time when the Bee Moth begins his depredations. Now take a button and put a bit of cloth around it, and tie it tightly on the upper side of the button; then trim off all surplusage of the cloth, so as to leave a bit of a wick, like a candle. Place this in the middle of the pan of oil, and light it. They "go for the light" in preference to the hive, and falling into the oil, are destroyed. The plan of the light is undoubtedly better than the vinegar and molasses. If a common pint basin was used, with only a gill or so of oil in the bottom, and the wicks trimmed pretty close, it would consume but a very little oil in the course of the night, and the top being flaring, would not obstruct the light much, while the height of the basin would also prevent the wind from blowing out the light. According to the number of colonies on hand, put more or less of these about the grounds.

Robbing—To Prevent.—If one hive, or swarm of Bees attempts to Rob another, just lift the hive of the Robbers, and, with a stick break up into their combs a little and they will quit their depredations and work at home repairs.

1. BEE AND WASP STINGS AND INSECT BITES—To Cure.—Borax, 1 oz.; pulverized and dissolved in water that has been boiled, and allowed to cool, $\frac{1}{2}$ pt.; or if preferred it may be the same amount of rose, elder, or orange water.

The Bites, or Stings are to be touched occasionally with the solution as long as any irritation continues.

Some persons are very much troubled with swelling and irritation from the Bites of gnats, and mosquitoes, while almost everybody is liable to the same from the Stings of Bees, etc., from an acid-like poison, that is left in the wound. This alkali neutralizes it. Aqua Ammonia will do the same, used of the same strength, 1 fl. oz. to water, $\frac{1}{2}$ pt.

2. A tea-spoonful of the borax solution to a $\frac{1}{2}$ pt. of soft water makes an excellent wash for the head in cases of trouble from dandruff, and is more pleasant, for this purpose, if rose water is used in its make. Twice a week will be sufficiently often to use it until the scalp is cleaned, then once a week, or once in two weeks, will keep it clean, using a very little oil after each application to compensate for that which the borax saponifies (turns into soap) in the hair, to prevent harshness.

3. A table-spoonful of the ammonia solution in soft water, $\frac{1}{2}$ pt. makes an excellent wash for the armpits of those persons who have a sour smell from excessive sweating. To be used once or twice a week, or oftener if needed.

1. BLEEDING, OR HEMORRHAGE—Successful Remedies.—In cuts and bruises, nose bleed, etc., where the Blood flows in any considerable quantities, take the dust from the tea-canister, or finely pulverized tea, if considerable is needed, with the dust; or, the scrapings of the inside of sole leather, and bind closely upon the wound.

After the Blood has been stopped, laudanum may be applied by wetting cloths in it to allay pain and prevent soreness—if no laudanum is at hand, camphor spirits.

In cases where a large artery or vein has been cut, to make it necessary to ligate (tie up) it will be best to send for a surgeon, at once; and if it is an artery, which may be known by the spirting of the Blood at every beat of the heart, place a finger or thumb upon the artery between the wound and the heart, but close to the wound, and press sufficiently hard to prevent the flow of the Blood, for if you do not, the patient will probably die before the surgeon can arrive. Cut veins flow in a steady ooze, or stream according to their size, and the pressure is required on the side of the wound from the heart, as the veins carry the Blood towards (to) the heart. Do this fearlessly, in bad cases, i. e. where the Blood flows in large streams, and hold on, no matter how long it may be, until the doctor arrives.

2. Nose Bleed—Simple but Effectual Remedy.—In long continued Bleeding from the nose—in which cases the persons are generally in a low or poor condition of health—tannic acid in the dry powder, applied by moistening linen, then dipping them or rubbing the moistened cloths in the acid and passing them into the nostrils, as high up as may be necessary to reach the point, has been found very effectual. If sufficient can not be made to adhere to the cloths, it may be made into an ointment by using a very little lard; then apply to the cloths and insert as before.

3. But it would not be amiss in these days of *reapers* and *mowers*, and other farm machinery, for families to keep on hand a small bottle of *Styptic* (an astringent that causes contraction of the blood vessels, and stops bleeding); and the following, or No. 5 will be found very valuable.

Monsel's Persulphate of Iron.—This article is kept by druggists, and is also known as Monsel's Solution, because it was first introduced to the public by Dr. Monsel, in 1852. Among *eclectics* it is also known as the "Perchloride of Iron." It is used in solution, but the solution is of a sirupy consistence, and of a deep color. It is highly recommended both by the "regulars," and "eclectics." The United States Dispensatory, the organ of the old-school, makes the following remarks upon it:

"It is very efficacious as a *Styptic*, and peculiarly adapted, through the power of coagulating the blood, to cases of hemorrhage in incised wounds (deeply cut wounds), or on surfaces in which it is specially desirable to avoid irritation. The solution may be applied by means of a sponge, or small brush, or a pencil of fine-spun glass, to the Bleeding surface, or vessel. It has also been used internally; and there is little doubt that it would prove efficacious as a *Styptic* in hemorrhage from the *stomach* and *bowels*, and by *injection* into the rectum in Bleeding from that part. It may be given in doses of 5, to 15 grs."

The solution is so concentrated as it is kept by druggists, that 1 drop from a common vial is about equal to 1 gr.

King, in his *Eclectic*, or *American Dispensatory* says of it:—

"Perchloride of Iron is given in Solution, and is a powerful *Styptic*. Internally it has been successfully administered in "*epistaxis*" (nose bleed), "*hemoptysis*" (bleeding from the lungs), "*hematemesis*" (bleeding from the stomach, known by vomiting blood), "*menorrhagia*" (profuse menstruation), "Uterine and other hemorrhages of a passive"

(moderate, not active) "character, the dose is from 5 to 10 drops in a sufficient quantity of water, and repeating *two, three, or even four times a day.*"

Further along in his description of this article, he says: "Perchloride of Iron arrests arterial, or venous hemorrhage resulting either from accident, or as a consequence of Surgical operations. Hemorrhage from the bowels may be checked by an enema" (injection) "composed of from 20 to 25 drops of a concentrated solution of Perchloride of Iron to 7 ozs. of fluid."

The "fluid" may be any injection mixture, as gum water, flax-seed, or slippery elm water. Eight ozs. make $\frac{1}{2}$ pt. King continues:

"Hemorrhage from an abscess" (a collection of pus in any part) may be checked by injecting a solution of 10 drops of the concentrated solution to 7 fl. ozs. of water. Twenty drops to $3\frac{1}{2}$ fl. ozs. of water has been successfully used as an injection in chronic gonorrhea or leucorrhea (the first a discharge of mucus from the urethra of the male, the last, from the vagina of the female, caused by inflammation of the parts), in weak and lymphatic subjects" (i. e. persons of a weak condition of body, pale and sickly countenance).

The more positive statements of Professor King as to the known value of this article, in stopping the flow of Blood, may be accounted for in the fact of their having been written some dozen years later than the first. It is now known to be an almost positive remedy for any profuse flow of Blood, internally in from 24 to 36 hours. For internal administration, it is well to sweeten the water in which it is given, and if distilled water is used it is all the better.

For Bleedings from extracting teeth it is used by wetting lint and pressing it down to the seat of the ruptured vessel.

4. Besides the foregoing, more positive treatment for hemorrhages, or profuse internal bleedings, common table salt in half, to a tea-spoonful doses every half-hour, or hour, is often given, with mustard plasters to the feet, followed with a hot foot-bath, or any hot application to the feet; a full *warm bath* may be given also if the general circulation is at all impeded, which would be known by a cool, or cold surface. Gallic acid in doses of from 3 to 5 grs. has also been found very satisfactory. Ipecacuanha in the same doses is often used until nausea is produced. A decoction of the bugle weed (*lycopus Virginicus*) is also considered a valuable remedy in bleedings from the lungs. Two ozs. of the dry weed to water, 1 pt. may be taken daily for several days. Make by heat, but it is to be taken cold. The general treatment, in all cases should be such as to restore general good health.

5. Elixir of vitriol and tannic acid has been used very successfully as a hemostatic, or to stop Bleeding. The Elixir of vitriol is the *aromatic sulphuric acid*, prepared by druggists; and the manner of using it is by using only sufficient of it to thoroughly moisten the tannic acid, and apply freely to the wounded part, or bleeding vessel. A cure is reported by Dr. A. P. Merrill, through the *Medical Record*, and *Medical and Surgical Reporter*, where the celebrated Dr. Horace Green, had cut off a portion of the tonsils of a patient taken to him by Dr. Merrill. The Bleeding occurred in the night, and had been profuse, and considerable had been swallowed before the patient awoke. He applied it freely and the hemorrhage was immediately and per-

manently stopped. He afterwards used it internally and for external hemorrhages, and in diarrhea, with great success.

THE DOSE of the Elixir would be from 10 to 30 drops, and of the acid, 3 to 5 grs. for an adult, and for a child $\frac{1}{2}$ gr. to 1 gr., and of the Elixir, 1 to 5 drops, in water.

7. **Styptic Powder.**—Take copperas, 1 oz.; alum, $\frac{1}{2}$ oz. Pulverize each separately, and mix; then put onto a shovel, or piece of earthen and calceolate over heat, to a red heat, or until it softens down and becomes dry again, forming a red mixture. It is now to be pulverized very finely, and made into an ointment with a little lard, or it may be put into a vial and corked, to be mixed as used. It is applied to Bleeding piles, in the form of an ointment; and to other external bleedings by sprinkling upon, or by moistening a little and applying with lint. It is a powerful astringent, and Styptic, *i. e.*, having the power of stopping Bleeding, or, as physicians call it, hemorrhage.

Position, or the flexion, or bending of an arm or leg, in case of deep wounds will often act as a *hemostatic, i. e.*, stop Bleeding, very quickly and permanently. The following cases were reported under the head of

8. **Hemostatic Effects Secured by Position**, in the *Eclectic Medical Journal*, by A. Jackson Howe, M. D., of Cincinnati, Ohio, will explain the manner of proceeding. He says: "On the 12th of June, 1864, a lad 8 years of age, living on Hathaway street, was cut in the thigh with a narrow chisel, thrown in a fit of anger by an older comrade. The sharp end of the missile made a deep gash about 3 inches below Poupart's ligament, and a little to the outside of the femoral artery. The jets of arterial Blood and the location of the wound, indicated that the profunda" (deep) "artery, or one of its large branches had been severed.

"Pressure made upon the wound, before I arrived, had prevented a fatal loss of Blood. After placing the thumb of an assistant upon the femoral artery in a way to secure compression of the vessel where it passes the pubic bone, I proceeded to pack the wound with pieces of old cloth. Having filled the gap I laid a compress upon the plug, or tampon, and bound the whole in place with a bandage. The dressing for the time, effectually arrested the Bleeding; and I left the patient in the care of faithful watches who received instructions to summon me if they saw the bandage becoming stained with Blood. Before midnight I received the startling message; and I hurried to the bedside of my little patient. I found the tampon and bandage saturated with Blood, the hue of which indicated its source. Must the wound be unpacked, and the work, faithfully done at first, be repeated—and what would be the assurance that a more satisfactory result might attend the second attempt? I queried whether anything reliable could be effected by *position*. The emergency suggested a trial. I flexed the leg against the thigh and then the thigh firmly against the abdomen, when, to my surprise, the Bleeding instantly ceased. The bandage to secure the compress was cut and removed, but the plug of cloth remained in its place. With a bandage which extended in front of the leg below the knee, and around the body above the nates," (buttocks) "I retained the limb in the flexed attitude for a period of 10 days or more. In the meantime suppuration loosened the tampon, and granulation at the bottom and sides of the wound pushed the packing outwards, so it could be easily removed in

parts. The limb was gradually extended from day to day; and in 3 weeks from the time the injury was received no further care on my part seemed necessary, and the patient was discharged.

"Bleeding from the plantar and tibial arteries can generally be arrested by the forcible and continued flexion of the leg, as just described. And when the manœuvre succeeds it saves the unsatisfactory use of the tourniquet, and the trouble and danger of ligation.

"On the 25th of January, 1872, a young man by the name of Henry Kemper, while at play with a fellow workman in a mattress factory, received a deep cut in the anterior" (front) "aspect of the forearm, just below the elbow, which severed the ulnar artery near its origin from the brachial. It is needless to say that the Blood spurted in frightful jets from the wound. A passing physician volunteered his services, and attempted to staunch the Bleeding with the sulphate of iron," (this may refer to the copperas, or to the persulphate of iron). "The Styptic favored the formation of coagula, but the pasty mass was not of sufficient firmness to arrest the flow of Blood. When I reached the patient he was ghastly pale and swooning. The doctor suggested that I ligate the brachial somewhere above, and tendered his assistance. Instead of following his suggestions I flexed the forearm forcibly against the arm, when the Bleeding entirely ceased. Adhesive strips and a bandage served to keep the limb in the flexed attitude. The limb was kept in this position for 2 weeks, and then allowed to be extended and used. At the time the patient was discharged there was a perceptible pulsation in the ulnar artery at the wrist. Whether the pulse was produced by a returning current through the palmar arch, I could not satisfactorily determine. The use of the arm is not impaired by the injury, or by the prolonged state of flexion in the limb.

"This is not the first instance in which I have arrested dangerous Bleeding from wounds of the forearm and hand, by holding the limb in a forced state of flexion; and since I put the method in practice I have not failed to accomplish the desired object.

"In making this report I believe I am contributing something valuable to the means of arresting hemorrhage. I am aware that the process of elevating a Bleeding limb to stay the flow of Blood, has long been known to the profession, but I am not familiar with authorities which advise a forcible flexion of a limb to arrest hemorrhages from severed arteries."

9. The last paragraph of the foregoing report brought out the following explanation in the next number of the *Journal*, from Professor Edwin Freeman, of the Eclectic Medical Institute, of Cincinnati, which fully confirms the practicability and success of the treatment by position. He says:

"In the March number, 1872, of the *Eclectic Medical Journal*, there is an article under the above heading, by A. J. Howe, M. D. The writer, after reporting several cases, closes with these remarks: 'In making this report I believe I am contributing something valuable to the means of arresting hemorrhage. I am aware that the process of elevating a limb to stay the flow of Blood has long been known to the profession, but I am not familiar with authorities which advise a forcible flexion of a limb to arrest hemorrhages from several arteries.' I refer him to the following extracts: In the Half-Yearly Compendium of Medical Science, Part VI, July, 1870, page 199, the following occurs under the heading 'On Forced Flexion of the Limbs in

Traumatic Hemorrhage, (i. e., hemorrhage from wounds). 'Dr. Adelmann, of Dorpat, quoted by L'Impariale, of Florence, strongly advocates this practice, which he considers has, *unfortunately, fallen into oblivion.*' He quotes numerous authorities in support, such as Nelaton, Ansiaux, Fromey, Malgaigne, Klote, Myrtl, Vidal de Cassis, and cites a case of his own where forced flexion of the hand on the forearm and the latter on the arm arrested hemorrhage from a wound of the ulnar artery. Dr. Adelmann thinks that such flexion should be had recourse to before other hemostatic means are employed; that this practice should be made known among the people at large, so that it might be used before the arrival of the surgeon; and that soldiers in the field should be acquainted with it.'

"Also in Compendium, Part VIII., July, 1871, we find the following: 'Mr. George T. Heath, in his address on surgery at the late meeting of the British Medical Association, published in the *British Medical Journal*, submitted the following results of his experiments made on different individuals to determine the effects of position upon arterial hemorrhage.

"A. Upper extremity.—1st. Forearm bent on arm by muscular action of the individual experimented on. In persons with considerable muscular development, pulse at the wrist entirely stopped.

"2d. Forearm bent on arm simply with the hand flat on the shoulder. Pulse weak and indistinct sometimes but rarely quite stopped.

"3d. Forearm bent on arm, with hand pronated," (bent at the wrist). Pulse more weakened, sometimes stopped.

"4th. Forearm bent on arm, hand pronated and extended" (bent at the wrist but held open). "Pulse usually quite stopped.

"5th. Forearm bent on arm, hand pronated and bent at wrist. Pulse either almost imperceptible or quite stopped.

"Forearm bent on arm, with a roll of lint or cambric handkerchief rolled up and laid in bend of elbow. Pulse always entirely stopped.

"B. Lower extremity.—1st. Leg flexed on thigh. Pulse in posterior tibial artery much weakened.

"2d. Leg flexed on thigh, and thigh on abdomen. Pulse in posterior tibial stopped altogether almost invariably.

"3d. Leg flexed on thigh, with a roll of lint or cambric pocket handkerchief laid in the bend of the knee. Pulse stopped in some cases, not always; but with flexion of thigh on abdomen also, pulse invariably stopped.

"4th. Thigh flexed on abdomen, the trunk bent forward. Pulse materially weakened.

"From these experiments, as well as from those cases of actual Bleeding in which this method has been used, it may be fairly inferred that we possess, in overflexion, a Blood-controlling agent of considerable power, which can be applied on the shortest notice; which requires neither instruments nor apparatus other than can be obtained in the poorest cottage; which can be put in force by any one possessing neither special knowledge nor operative skill; which is not dangerous in itself, and which may be relied upon with certainty to restrain Bleeding, at least temporarily, even when it may fail permanently to arrest it."

I think, with the foregoing explanations, that not 1 case in 100

need be lost from hemorrhage, or Bleedings from wounds, although no physicians may be near.

Bronchitis.—The names of the diseases terminating with *itis* signifies an inflammation, so Bronchitis means an inflammation of the throat and bronchial tubes which are the air passages into the lungs, and is *caused* by what is commonly called "taking cold," and this will hold good in nearly all inflammations; and now then the important question to settle is, what is it to "take cold?" Whatever checks *sensible* or *insensible perspiration*, and holds it in check so long that the system has not the power to *restore* it again, is *taking cold*! The skin, when persons are in health, even when the person is not in exercise, is constantly throwing off the worn-out, or effete matter of the system, the same as the kidneys are constantly, night and day, throwing off, or secreting the urine which passes through the ureters (small tubes) to the bladder. This throwing off, by the skin, of the matter in a half-fluid, or thickish state, is called insensible perspiration, and is taken up by the clothes upon the covered portions of the body; and on the hands, face, etc., it evaporates so readily it is not seen. Long exposure to cold, or even a short exposure, after severe exercise, checks this perspiration, and a cold, more or less severe, according to the severity of the weather, or the severity of the exercise, is the result, and the Bronchitis will be more or less severe, according to these circumstances, and, consequently, is more common in cold weather than in Summer; the same will hold good in all inflammatory diseases. Then 3 or 4 or half-a-dozen of these colds, neglected, give a chronic Bronchitis, chronic Catarrh, or an incipient (beginning) Consumption, according to whether they settle upon the *bronchial tubes*, membranes of the *nose*, and *nasal* connections, or upon the *lungs*.

Symptoms.—About the first Symptoms noticed will be chilliness, hoarseness, soreness of the throat, slight cough, with a tightness across the chest, which, unless you can get to a warm place, or take hold of work, to warm yourself up, will go on, until a slight fever will come on to endeavor to restore the surface to its usual warmth; but, it would always seem that these efforts of the system are an over exertion, for the fever goes above the common temperature; the breathing becomes laborious, with a wheezing, or rattling in the throat and bronchial tubes, by a clogging of more or less viscid, or tough phlegm in the parts affected, which, after 2 or 3 days, if the case improves, will become thick and mattery. Pain over the eyes, or in the lower part of the forehead is generally present, and is made worse by coughing. The tongue is generally white and covered with mucus, or discharge from the throat and bronchial tubes. And if it is a bad case, all of the secretions, urine, and feces, as well as the perspiration will be more or less cut off, or lessened.

Treatment.—To properly introduce the Treatment, we will suppose a case, similar to which I have had many-a-one,—a man (for men have these inflammatory diseases 10 times to women once) comes home at night, with a cough, sore throat, etc., indicating that he has *taken cold*, and that it has settled upon the *throat and bronchial tubes*—take no supper, but go right to work, as for common colds, and get up a perspiration, by soaking the feet in water as hot as it can be borne, and pouring in more hot, from time time to keep it hot, for 20 to 30 minutes, and if you have one of the *alcohol lamps for sweating purposes*, set it to work at the same time, and take some hot teas to help the

work, and if there are no sweating herbs in the house, of course, there is some whisky or other liquor, make about a pint of hot-stew, using 1 gill of whisky, with sugar and hot water; and drink one or two good draughts of this while the feet are in the water, and the rest of it after you get into bed, covering up warm so as to continue the sweating for an hour or two, with hot irons, bricks or stones at the feet, as your conveniences will allow; then, when the family go to bed, take a good dose of physic, so it shall operate well by the next morning, and ten chances to one you will not need much further treatment. Perhaps some of the *Sweating tincture*, and a little of the *cough sirup* and a little *diuretic* may be needed through the following day, or for a few days. But, if this does not work such a decided improvement as to indicate that no serious trouble remains, after the physic has operated, then take an *emetic*, or repeat the previous process, at farthest, on the following evening, when the symptoms, fever, etc., would likely be worse than through the day. But should you deem it best from the violence of the symptoms to take an emetic, one of the *diaphoretic* or sweating medicines had better also be taken to keep a tendency to the surface, according to the directions under that head.

But if these cases are neglected, they run on into a *chronic*, or long standing disease, and become very troublesome to cure, and often set up a chronic inflammation of the lungs, and finally consumption is the result.

The Treatment of chronic Bronchitis must needs be of a similar character; but, the emetic or sweating need not be repeated oftener than once a week, nor the cathartic, and they need not both be taken the same day; but a cough sirup, or some cough medicine should be taken daily; and a diuretic be taken for a day or two each week, as the case seems to demand, and a little essence of spearmint may be taken, a few drops whenever the soreness or rawness of the throat is troublesome, keeping a vial of it handy to taste, night or day, without water; or a drop or two of cedar oil may be taken on a little sugar, and the throat have some of it rubbed upon the outside as a liniment. The following combination of articles will fulfill all the indications needed, except that of cathartic, which can be used by itself, once in a week or 10 days:

Acetic tincture of bloodroot, tincture of black cohosh, and of the balsam of Tolu, and wine of ipecacuanha, of each, $\frac{1}{2}$ oz.; sweet spirits nitre, 1 oz. Mix.

Dose—A tea-spoonful, in a little water, 3 to 5 times daily according to the amount of irritation present.

This plan to restore the general health, will in the nature of things cure any inflammation, unless the system is so reduced that the recuperative, (reproducing and healing) powers are more than ordinarily depressed.

Prof. Scudder, reports the following very satisfactory result in a case of chronic Bronchitis, in the *Electric Medical Journal*, 1871.

Mr. C— has been an invalid for six years. He has a severe cough and expectorates a very unpleasant muco-pus, to the extent of probably two pints a day. His pulse is 110 per minute, temperature 100°, though he has been walking—pulse 90, temperature 99° on succeeding day. Skin dry, tongue coated with a yellowish, dirty fur, has diarrhea, feet dropsical. On auscultation moist, blowing sound—gur-

gling—throughout the entire chest; no evidence of tubercular deposit. Hectic fever and night sweats.

Prescribed, to check diarrhea and improve digestion, *nux vomica*. To quiet the cough, *Drosera*, †; to check profuse secretion, *hamamelis*. † And as it was more convenient, gave them together in the following proportion: Tinct. *nux vomica*, 2 drs.; tinct. *drosera*, 4 drs.; Pond's *hamamelis*, 10 drs. Mix. Directions, add two tea-spoonfuls to a glass of water, and of that take a tea-spoonful every three hours.

The remedies fulfilled the indications as named as well as could be expected, and there was a decided amendment after the fourth day. At the end of the second week, he reported having gained five pounds; no hectic, no night sweats, diarrhea checked, appetite good, swelling going out of feet, just sufficient cough to remove the mucus, which has also diminished to about one-fourth.

The improvement still continues, and there is a prospect for a complete recovery.

Inhalations in chronic Bronchitis is of considerable value, and our *alterative inhalant* will be found very satisfactory. Breathing or Inhaling, as one may choose, the strong vapor of hoarhound and catnip is very soothing, and tends to direct the perspiration to the surface, so of camphor. See INHALATION, and the INHALER.

Laudanum, and tincture of lobelia, equal parts, a tea-spoonful to the gill of hot water and inhaled, will aid expectoration and allay irritation.

BRONCHOCELE, Goitre, or Swelled Neck.—Is an enlargement of the thyroid gland, which is situated on the front part of the neck, coming on very gradually, but steadily enlarging, unless met with proper treatment.

Cause.—It is undoubtedly caused by a scrofulous tendency in the system, which quite often locates itself upon this gland.

Treatment.—If commenced with in season by a gentle *cathartic*, and *diuretic* followed with an *alterative*, and the *discutient ointment* to the neck every day, repeating the cathartic and diuretic course once in a week or 10 days, will soon correct the system, and carry it off, and restore general health. An ointment made of the juice of the milk-weed, which is claimed to be a certain cure for wens, is believed by some to be valuable in Goiter in its commencement, but I have had no opportunity to test it.

In cases of long standing, or in cases which the discutient ointment does not improve within a few weeks let the following alterative and ointment be used:

1. Alterative Tonic for Bronchocele.—Fluid ex. of sarsaparilla, and gentian, of each, 1 pt.; iodide of potash, and iodide of ammonia, of each, 1 oz.; Dissolve in milk, and keep well corked.

Dose.—A tea-spoonful after each meal, in a little sweetened water. This will be valuable in any scrofulous ulcers, or swellings.

2. Ointment for Bronchocele.—Iodide of potash, 1 oz.; iodine, and sal ammoniac, of each, 1 oz.; mix in 1 lb. Rub all the articles

together. **NOTE.**—The *drosera* (drosera rotundifolia) is the round-leaved sundew, a little plant growing along the edge of marshes and streams or ponds, having little reddish hairs making it look quite furry all over the leaves, and these hairs have a bit of gammy fluid like a small dew-drop which glistens in the sun, which will enable any one to know it from all other plants; the hairs may be quite long. The tincture is made from the leaf.

The *hamamelis* is the common witch-hazel, and the tincture is made from the bark. The *nux vomica* is kept by druggists, and being good in *diarrhea*, as well as in *constipation*, may properly be called the *regulator*, in proper doses.

fine, and well with the lard, and keep boxed, or in a wide-mouthed bottle, corked. Apply twice daily, by rubbing and warming in well, and keep it up as long as may be necessary. It, like the alternative, will be found valuable as a discutient (scatterer) of all scrofulous swellings, tumors, etc. If the use of these preparations for a couple of months, with an occasional cathartic, or attention to the general health, fail to materially benefit the patient, they may be benefited by a daily application of electricity, passed through the tumor, as powerful as can be borne for 10 to 20 minutes at each time; but, unless the case has been of very long standing, and enlargement become very hard, the electricity will seldom be needed.

3. Iodine Paint, or Tincture, for Bronchocele—New Method of Cure.—The following *new Iodine paint*, originated with the editor of the *Canada Medical Journal*, who makes the accompanying explanations concerning it. Some persons may prefer it to the above *ointment*, although its nature and action will be found very similar. He says:

"I have been requested by some professional *confreres* (associates) to bring under the notice of the profession, a *new Iodine Paint*, which I have had prepared and used with satisfaction and success, in the cases of glandular enlargements and scrofulous diseases, wherein Iodine is called into requisition. In the hands of esteemed and eminent practical surgeons, it has proved equally beneficial as in my own practice, and they speak, or write in flattering terms of it to me.

"I rub down $\frac{1}{2}$ oz. of Iodine and a like quantity of Iodide of ammonium in a Wedgwood mortar, and gradually dissolve it in twenty ozs. of rectified spirit (alcohol); to this I add 4 ozs. of glycerine, shaking the solution well together. A very nice paint is thus obtained, which has the following advantages:

"1. The Iodine is prevented escaping, owing to the combination which, in the form of ordinary tincture, in warm weather it is very apt to do.

"2. It preserves the Iodide of ammonium instead of Iodide of potassium; the former being a more powerful absorbent than the latter, which recent investigation has verified.

"3. The action of the glycerine is soothing to the skin, keeping it soft and pliable—a contrast to the shriveling of cuticle produced by the ordinary tincture in common use, which frequently acts as a vesicant. But where absorption is desired, the part affected and its neighborhood influenced, as well as the system generally by Iodine, and no local irritation required, this combination in form of paint will be found superior to the old tincture.

"I have not confined the use of the preparation alone to glandular swellings or scrofulous gatherings. I have employed it in chronic cutaneous diseases, to nodes, over enlarged livers, diseased joints, to hypertrophied parts or morbid (diseased) growths, and in cases wherein it was necessary to alter an abnormal (unhealthy) action or promote absorption, and the result was uniformly satisfactory, and I think I may safely say the effect of the Iodine was more really appreciable, and more quickly demonstrated in its action on the system generally, as well as by its absorbent properties locally, than the old tincture of the British Pharmacopeia, *minus* its disadvantages."

Although the foregoing plans will generally prove very satisfactory; yet, there will occasionally be a case of such apparent obstinacy,

or complication with weakness, or other disease, I will give the treatment as practiced in Bengal, India; and also a case of the complicated character, as followed in our own country; and although the first might prove rather severe as only one application, in one season, would be required, it could better be borne than to allow its continuance. It is as follows:

4. Bronchocele, or Goitre—Case as Practiced in Bengal, India.—Dr. Mouat, of Bengal, states that upward of 60,000 cases of Goitre have been treated in that country on the following plan, which generally effects a cure at once, or, if not, a second repetition next year suffices: Melt 3 lbs. of lard or mutton suet, strain; when nearly cool, add 9 drs. of biniodide of mercury, taking care to make the powder fine by trituration in a mortar. Work in a mortar until no grains of red are apparent in the ointment, and put in pots for use, taking care always to keep both powder and ointment from the rays of the sun. Use as follows: About an hour after sunrise apply the ointment to the Goitre with a spatula made of ivory, the quantity to be according to the size of the tumor; rub it well in for at least ten minutes. Let the patient then sit with his Goitre held well up to the sun, and let him remain so as long as he can endure it. It is probable that about noon he will suffer pain from the blistering effect of the ointment, although no pustules are raised on the skin. About 2 o'clock in the afternoon, the ointment should again be applied, as before, with the spatula very careful; the patient is not to touch the ointment with his hand, but allow it to be gradually absorbed, which absorption will be complete on the third day.

5. Bronchocele Connected with Anemia, or General Weakness, Leucorrhœa, etc.—A case of this character is reported to the *Eclectic Journal*, by A. F. Pattee, M. D., of Boston, Mass., which resulted so favorably, it will give it a place here. He says:

In the Spring of 1859, my attention was called to a case. A lady, aged 39, one of a numerous and healthy family. She had married at the age of 20, and continued to enjoy for many years a full share of health. She was the mother of 4 healthy boys. For 3 years, before I saw her, she had suffered from continued mental anxieties and distress, and had had profuse leucorrhœa, which had affected her general health considerably. For the last six months she had complained of palpitation of the heart, which was greatly increased by excitement, by going up stairs, by fast walking, and by everything that caused a hurried circulation. At these times her face would be flushed, while at other times it would be pallid. The eyes presented an unusual appearance, looking wild and staring with a startled expression, the mucous membrane looked white and free from blood, lips pale, but when the face was flushed, then the eyes and lids would become injected. With these symptoms an enlargement of the thyroid gland manifested itself. It was soft, smooth and elastic, and of equal character throughout, presenting the form of the enlarged gland, and had rapidly grown to its present size, that of six or eight times the magnitude of the gland in health. The pulse at this time generally ranged from 100 to 120; it was small and feeble, and on the occasions of excitement accompanied by a murmur. The inordinate action of the heart was felt beating in the head, abdomen, and in fact most all parts of the body. She had shortness of breath, ringing in the ears, vertigo, dyspnea. On listening to the heart's action, the

contraction of the ventricles was prolonged and was attended by a soft bellows murmur, and a thrill along the large arterial trunks.

The nervous system was in a high degree of excitement and the stomach and intestines much deranged, the tongue covered with a white, pasty coating, offensive breath, and want of appetite, bowels constipated.

The catamenial discharge was imperfect and irregular. In the intervals leucorrhea prevailed; it was white, thin, and quite offensive; there was no ulceration, erosion or other ulcerative disease of the cervix. A variety of treatment had been for some time pursued for the relief of these symptoms without avail. She had taken digitalis in large and small doses, mercury and valerian, opium and ipecac, iodide potassa and iron, but all in vain, and the condition of the patient was alarming. A plan of treatment was adopted, which, after being continued for many months, has resulted in recovery to the patient. This consisted of 10 gr. doses of the pyrophosphate of iron after each meal, 15 drops tincture nux vomica before each meal, and 1 dr. tincture podophyllum at bedtime, and sponge the body every morning with the following solution: Hydrochloric acid, 1 oz.; water, 90 ozs.; a full diet of animal food, oatmeal pudding and milk, and a sun-bath one hour every day. Under this plan the general system gradually became invigorated, the whites subsided, the thyroidal swelling diminished, and finally disappeared, the eyes regained their natural look, and the general appearance is one of good health. I saw her but a month ago, and she was quite well.

BRUISES.—If Bruises are large, and upon such parts as can not be put into a dish of cold water, let cloths be wrung out in cold water and laid upon them, and, from time to time, apply freely of any good liniment, as directed under the head of ABRASIONS, which see. Some persons have a preference to the tincture of arnica, wetting cloths and laying upon them.

BURNS AND SCALDS.—A Burn or Scald, according to the degree of heat of the article causing it, will destroy the surface, or excite an inflammation; for while the natural temperature of the body is only 98° that of boiling water is 212°, and red hot, or molten iron, several hundred degrees higher; but in case of a Burn or Scald from water, only, if cold water can be immediately thrown upon the part, but little inflammation will result; but if no cold water is at hand the blistering will be likely to take place. In case, however, of the Burning of a child at table, when there are others present, don't stop to remove clothing but dash on cold water at once to cool the clothes and hot tea or coffee, as the case may be, lift the clothing up from the skin as quick as possible, and put on more cold water if needed, otherwise it will burn deep from what the clothing holds of the hot fluid. Then remove clothing, and apply cold water by wetting cloths, or what is still better, if you have it, cold milk, and Dr. Scudder thinks that good cider vinegar is excellent, and re-wet by taking a piece of sponge or folded cloth, so as to squeeze it out upon the cloths over the Burn, as it is best to keep the air from the Burn as much as possible. The danger arising from Burns will depend much upon the extent of the surface Burned, and the depth of the injury—if very extensive and deep, the patient may never rally; or if flame, to any considerable extent has been drawn into the lungs, the probability is that they can not be saved; but, as it is never possible to tell exactly what the

result will be, all should be done that is possible to do. The cloths, which have been wet in either of the fluids just above named, should be kept wet by the use of a sponge, or a "sop" of cloths, squeezing the water from the sponge, or "sop," upon the cloths as they lie upon the Burn. The object of this is to prevent the air from coming in contact with the Burned surface, by which inflammation is more likely to set in, or, in other words, not to lift off the dressings any oftener than is absolutely necessary. A slippery-elm poultice is valuable in reducing inflammation; so also is scraped, raw potatoes.

2. The "Old School," regular, application for Burns was lime-water and linseed-oil equal parts, applied by wetting cloths, as above—some added also, an equal part of the spirits of turpentine (the lime-water is made by using stone lime, 1 oz., water 1 qt., slacking the lime with a little of the water; then putting all into a bottle and shaking occasionally for 3 hours, after which let it settle, and use the clear fluid, by pouring it off carefully as needed.)

3. Carbolic Acid in Burns.—Dr. Wilson reports through the *Lancet*, that carbolic acid, 1 part, to 30 parts ($\frac{1}{4}$ oz. to 1 pt. will be near enough) of the common oil and lime-water preparation above given, prevents pus (matter), and heals more rapidly, and without scar unless very deeply Burned. The same plan of keeping the linen cloths wet with it, as I have recommended above, is adopted, which he says more effectually excludes the air, besides keeping down the tendency to mature, and also the tendency to mortification, in very extensive Burns.

4. White of Eggs in Burns.—The *Scientific American*, in speaking of some of the extensive Burns, as occurring now-a-days, says;

"The white of eggs has formed, of late, the most efficacious remedy for Burns. Seven or eight successive applications of this substance soothes the pain and effectually excludes the air. They are undoubtedly to be beaten, to cause them to flow, or spread properly.

5. BURN SALVES.—Linseed-oil, 1 qt.; red lead, $\frac{1}{2}$ lb.; spirits of turpentine, 1 oz.

Heat the oil until it will scorch a feather; then, the red lead being in fine powder, stir it in gradually, and when it is all taken up by the oil, and the mixture has become black, remove from the fire; and, when nearly cold, add the spirits of turpentine and continue to stir until it is cold.

This may be spread upon linen and applied to Burns, or any other sore, as a healing salve, to be renewed as occasion requires. It will prove highly useful.

But some may prefer the old *Newremburg Plaster*, as prepared by the "Old German School of Medicine."

6. Take olive-oil, 1 lb.; red lead, $\frac{1}{2}$ lb.; rosin, $\frac{1}{2}$ oz.; yellow wax (bees-wax), $1\frac{1}{2}$ ozs.; camphor gum, $\frac{1}{2}$ oz.

Heat the oil the same as for No. 5, then stir in the fine, or pulverized lead, and continue the heat until it becomes dark, like that, then remove from the fire, putting in the rosin while hot enough to melt it, afterwards the wax, and finally the camphor, and stir until cold. Use, the same as the other.

7. The Common Stramonium ointment is considered by some very valuable in Burns. It is made by stewing the leaves of the stramonium in newly-made, unsalted butter, stirring, and add a little bees-wax to give it the proper consistence of an ointment.

8. Burn Salve.—Lard, 1 lb.; bees-wax, 3 ozs.; precipitated chalk, (kept by druggists), 1 oz.; whites of 5 eggs.

Melt the lard and bees-wax together and stir in the chalk and strain through coarse cloth. Beat the whites to a froth, and when the Salve is so cool that it will not cook the eggs, stir in the froth. Apply by spreading upon old linen. Old cotton will do but it is more irritable if it comes in contact with the Burned surface.

This receipt was given me by my neighbor, Michael Clancy, whose first experience with it was upon himself—prescribed by an old Scotch lady, at Providence, Rhode Island, where, some 30 years ago, Mr. C. was Burned in Mr. Slater's furnace, in which he was at that time at work. The Burn was terrible, by the spilling of a pouring-dish of melted iron as it was being carried to pour into a mould, the iron going into his boots, and making a perfect puddle around him. Water was pumped upon the terrible Burns until the pain somewhat subsided. He was then taken in and doctored according to the common treatment, oil and lime-water, etc., but without any prospect of recovery, until the old Scotch lady came to the rescue, with this Salve, which cured him. And he says he has cured many cases with it since.

The most implicit confidence may be placed in this Salve; for Mr. Clancy is well known in this community. And he has been very desirous that a knowledge of it should be extended.

I think that about 2 ozs. of spirits of turpentine would add to its virtue; and as the turpentine would have a tendency to make it a little softer, it might be well if the turpentine is added, to add also 1 oz. more of bees-wax, which will keep it of a proper consistence for use. If I should have occasion to use a Burn Salve again, this would be the one for the first trial. A little carbolic acid could be added, so could a little of the coperas, as suggested in the next receipt, below, if fetor, or an appearance of mortification should be manifested.

9. New Remedies for Burns.—Two new remedies for Burns are added to the list. The first is charcoal. A piece of vegetable charcoal laid on a Burn at once soothes the pain, says the *Gazette Medicale*, and if kept applied for an hour cures it completely. The second one is sulphate of iron, (copperas). This was tried by M. Joel, in the Children's Hospital, Lansanne. In this case, a child, 4 years of age, had been extensively Burned, suppuration was abundant, and so offensive that they ordered the child a tepid bath, containing a couple of pinches of pulverized sulphate of iron. This gave immediate relief to the pain, and being repeated twice a day—20 minutes each bath—the suppuration decreased, lost its odor, and the child was soon convalescent.—*Medical Press and Circular*.

10. Burns and Scalds—Clinical Case.—By J. J. Littlefield, M. D. Some 2 months ago, I was called to see Miss Mary Eckhart, age 14, who had been Scalded by spilling hot water upon her person. The wound extended from the hips to the feet, so that the skin peeled off in removing her garments. The thighs and legs were one extensive blister, excepting one small patch on each knee. Behind each knee and on the calves, the subcutaneous tissues (tissues immediately under the skin) were deeply Scalded. I first saw her 48 hours after the accident, and then learned that rigors and partial collapse followed the accident, but her parents administered cordials and applied olive oil with cotton wool. She did not complain, neither did the

parents become alarmed, until reaction began to take place, when she was seized with convulsions, and became comatose, (drowsy and insensible), in which state I found her.

I at once administered 20 drops of the tincture of gelseminum first, and repeated every 20 minutes, until some 5 or 6 doses had been given. In the meantime I dressed the Burned surface with the following: Glycero-carbolic acid, saturate 1 oz.; simple cerate, 4 ozs.; bismuth sub-nit., $1\frac{1}{2}$ ozs.; mixed and spread on linen, and the entire Burned surface covered with this dressing. (Let this ointment be prepared by a druggist). In about 2 hours from the time I commenced treatment, she all at once came to herself and recognized friends around her. She was then suddenly seized with severe pain of the hypogastrium, (the lower part of the abdomen), which was promptly dissipated by hot fomentations to the parts, after which she never complained of a pain. No other dressing or treatment was used. In 9 days from the time she received the Burns, she was able to attend a camp-meeting at some distance. It has fallen to me to administer to the excruciating sufferings of quite a large number of persons thus unfortunate, and in every instance where I have used it, the above treatment has given most prompt relief and a speedy cure. I have used this treatment in instances of severe Burns, and have not been disappointed with it. Each agent meets a most important indication. The gelseminum in controlling the reflex action of the cerebro-spinal system, the carbolic acid as a local anæsthetic, (to render insensibility to the Burned parts), to the wounded or Burned nerves, and the bismuth with the cerate, a most soothing covering for the denuded surface, under which granulation and cutis, or skin formation goes on most rapidly.—*The American Observer*.

11. **Liniment to Relieve Pain in Burns.**—Equal parts of chloroform and cod-liver oil, as a Liniment, or by wetting cloths in it and laying upon the Burn, has been found effectual in relieving the pain. Moisten with it sufficiently often to obtain the desired effect.

12. **Burns—A Case in Practice.**—I shall give a case in practice, by O. E. Tillson, M. D., of West Alexandria, Ohio, laudanum being used to allay the pain. It was published in the *Eclectic Medical Journal*, and he speaks of it so highly, I have thought it best to give it an insertion. And I think that with the variety of prescriptions here given, that there will be no cases, or situations, where a selection can not be made, according to the articles which may be obtained, that shall give entire satisfaction. Mayer's ointment, called for in the following Receipt, will be found under its proper head. He says:

About 7 o'clock, on the evening of Nov. 3d, 1871, J. B. aged 35 years, foreman in the steam grist-mill, half mile east of town, was sitting in front of the furnace reading a newspaper; the packing of the stand pipe blew out, forcing the water from the boiler down into the furnace, the steam, hot ashes, and coals came pouring out directly in his face, and before he had time to get out, he became dreadfully Scalded; he walked to town and I was immediately sent for. On arrival, found him walking the floor in great agony, his face and head presenting anything but a pleasing appearance, being fearfully swollen and looked as if it was literally roasted. On removing his clothing the cuticle came away with it in large patches from his breast, legs and arms; his hands were literally skinned. I immediately ordered the following:

13. Take aqua calcis (lime-water), and linseed oil, of each, 4 ozs; laudanum, 2 ozs; mix.

Saturated cotton with this and dressed those parts where the cuticle (skin) was removed; where it still remained I had it applied frequently with a feather. Ordered lemonade with a little brandy in it to be given him frequently to drink, placed him in bed and left a morphine powder to be given him towards morning if failed to rest. On my return in the morning found that he had rested pretty well after midnight, his face seemed to be swollen worse, had some fever, complained a great deal of his hands. Bowels were constipated, gave him a cathartic of the invincible compound powder of jalap and senna, left aconite, to be given occasionally through the day, continued lemonade minus the brandy, as a drink, and his diet to be *whatever he wanted*, renewed the dressing and ordered the local application applied freely and frequently. I continued this treatment for three days, with an opiate at night when necessary. I then changed the dressing to the following, which is the best application I have ever used on a burn:

14. Take olive-oil, 1 pt.; laudanum, 1 oz.; bees-wax, $\frac{1}{2}$ oz.; Mayer's ointment, $\frac{1}{2}$ oz. Melt together. Spread on cloths and apply to parts, renew the application twice a day. I continued this application without any change until his sores were entirely healed, which was in just twenty days. There was but little suppuration. I never washed the sores; used cotton or lint in cleaning the pus away, touching them lightly. I think it a bad idea to wet or wash a sore—I was going to say of any kind—as it destroys the granulations and impedes the healing process; that's my opinion.

15. Varnish in Burns—Recent French Discovery.—Paris was recently much interested in a remedy discovered by a workman, who, to relieve the pain from a severe Burn, thrust his hand into a pot of Varnish which happened to be at his side. The relief was so sudden, and the healing of the wound so rapid, that the news spread, with the result of bringing to him every one in the neighborhood who had a Burn. Many wonderful cures are said to have been performed at the time of the great explosion in Metz, last September and the discoverer was summoned to Paris, to make some public experiments.—*Journal de Chimie*, 1870.

16. Dr. Gidley's Ointment for Burns, and for Rheumatism.—Old Dr. Gidley, of Spring Water, N. Y., used to claim that there was nothing equal to the following Ointment for Burns, or for Rheumatism:

The tops and flowers of the green may-weed, (*anthesis cotula*), known also as wild chamomile, and as dog-fennel, $\frac{1}{2}$ lb.; oil of origanum 4 ozs.; oil of savin, 2 ozs.; and spirits of turpentine, 1 oz.; nice lard, 4 lbs. The dry weed may be used by first pouring sufficient hot water upon it to thoroughly moisten it.

Stew the may-weed in the lard until the leaves are crisp, but not burned. Some prefer to tie the may-weed in a bag and press out the juice, from time to time; but my preference is to put it directly into the lard, and strain, and press out when crisped, as you can see just when it is done. When cool, add the oils and turpentine and stir until cold.

It is highly recommended for inflammatory swellings, old sores, and the most speedy cure for Burns ever used, by those from whom it was obtained. It will be found valuable,

B. MISCELLANEOUS RECEIPTS. B.

1. **Babbitt's Anti-Friction Metal—For Boxes.**—This metal is composed of copper, 3 lbs.; block tin, 3 lbs.; and antimony, 1 lb.; and in this proportion for any amount desired.

First melt the copper, then add the tin, then the antimony; and when all is melted, pour into bars, ready for use as desired, or pour into journal boxes, if needed at the time.

2. Where small shafts have got to be run at a very high rate of speed, the journals invariably heat with any of the *common* metal boxes. But in cases where they have been run as high as 7,000 revolutions per minute, the following *alluminum* bronze has proved successful: Copper, 90 parts; alluminum, 10 parts. The alluminum can be obtained in the large cities of the metal dealers.

1. **BAKING POWDERS.**—Bicarbonate of soda, 9 ozs.; cream of tartar and tartaric acid, of each, 4 ozs.; fine wheat flour, 10 ozs.

The articles must all be thoroughly dry, and evenly mixed together; and they must be bottled, or boxed so as to keep them dry. The expense is only trifling as compared with those kept "on sale." Baking Powders should always be mixed evenly into the flour being used, before the wetting material—cold milk, or cold water—is put in. Some people claim that sour milk can not be used with Baking Powders. This is a mistake. By using sufficient baking soda to neutralize the acid of the milk, the biscuit will be all the richer by using sour milk.

2. **Another.**—Bicarbonate of soda, 4 ozs.; tartaric acid, 3 ozs.; nice rice flour, $1\frac{1}{2}$ ozs. To be used with the same precautions as No. 1.

BAKED BEANS—Very Nice.—Put the Beans to soak early in the evening, in a dish that will allow plenty of water to be used. Change the water at bed-time. Next morning early, parboil 2 hours. Then pour off nearly all the water; take raw pork, scored on top; put the Beans in a *deep dish*, a stone-ware jar is very nice, the pork in the middle, sinking it so as to have it just level with the surface. Add a very little molasses, or a very little sugar, and bake at least 4 or 5 hours, raising the pork for the last hour so that it will take a nice crisp on the top.

It has long been known that Beans are a healthy article of diet; but it is not as well known that the reason of it is, that, like milk, they contain nearly every chemical constituent, or element, necessary to build up the whole system. It would be well if 10 bushels were used to every 1 bushel that are eaten, both for health, as well as for *dollars and cents*.

BACON, CURING, SMOKING, ETC.—Western Fashion.—To cure pork for Bacon, nothing more is necessary than salting it with 6 lbs. of salt to each 100 lbs. of pork, rubbing it over the flesh side, and then piling the meat in a cool room, to remain without freezing as many days as one ham weighs pounds. It is an advantage to the hams to add 4 ozs. of saltpeter per 100 lbs., which should be made fine and sprinkled on before the salt is applied. It is also advantageous to overhaul the pile once while salting, and rub the remaining salt over the fresh-looking spots. Pickle is of no advantage in making Bacon, unless you wish to make sugar-cured hams; and even if you desire that, all you have to do is to apply a spoonful of molasses with your

hand to each fresh ham. The greatest error of Bacon curers is using too much salt. Sugar, saltpeter and smoke, will preserve a ham without salt. Smoking should be done with clean, sweet wood—the best of all is hickory—and the meat should never feel the influence of the fire. The best smoke-house ever built is a log-cabin, with open cracks, the meat being hung to the rafters and the fire built on the ground. A flat stone, or some green wood poles over the fire, to prevent the possibility of a piece of meat falling so as to take fire, is a good precaution. If Bacon is to be made “Western fashion,” lay the carcass of the hog upon the block and take off the head first. Then split the body and take out the lard, backbone and ribs. Cut off and trim the hams, also the shoulders, leaving the two sides full size, with straight edges, the angular pieces taken off going into the little portion of corned pork or fresh, and the small trimmings into sausage-meat. You then have two hams, two shoulders, two sides and the joles to hang in the smoke-house. Build one or two fires a day, only in dry weather, until your meat is smoked enough. *The best way that we have ever found to keep hams is to be sure to finish smoking before the bugs and little meat-flies are astir in the Spring, and then draw over each ham a loose cotton cloth bag, tying it around the hamstring, and then let them hang till wanted in the kitchen, three months or three years after—the older the better.* Pork which is afterward to be barreled may be salted in bulk much better than to put it into fresh brine. Some old Bacon-makers always hang hams butt-end up. We never have been satisfied of its advantage over the other and easier way.—*Western Man.*

The foregoing from the “Western Man” will be found very satisfactory. Having a couple of medium sized hogs to put down last Fall, and not liking quite as much saltpeter in my pork as some do, I took in these proportions, common barrel salt, 15 lbs.; white sugar, 2 lbs.; saltpeter, 4 ozs.; and mixed them thoroughly and evenly together, the saltpeter being first pulverized, then I rubbed this mixture well into the hams, shoulders, and joles, 3 times during 2 weeks, before smoking. The sides, I rubbed well before putting into the barrel, as I chose to barrel the sides in place of making Bacon of them. After 3 or 4 days, what the juices of the meat and the dissolving salt and sugar did not cover, I made a brine with the same proportions of materials to cover all; and I am glad to be able to say at this writing, Sept. 13th, that there is some of the pork just as sweet and nice as when first put down; and that during the Summer and Spring past, several pieces of it has graced a dish of “baked beans” as just above described; but, unfortunately, I can not say as much for the hams, or shoulders, they have long since “gone the way” of such articles, yet, we,—the family—look forward, with watering mouths, to the Winter and Spring, when again will be the time for their appearance upon the table. In other words, I think I never tasted Bacon, or pork to compare with it, at all favorably. It is claimed that by hanging hams the large, or flesh end up, that the juices of the meat do not drip out as freely as they do if the large end is down; but as “Western Man” says, it will take a very fine taste to distinguish the difference.

BANDAGING—In Broken Limbs and Ulcers.—In broken limbs, it is necessary to use the Bandage, and it has become quite common also, in the treatment of Ulcers. They are more generally made of cotton sheeting, being torn off in strips of 3 to 4 inches in width, and sewed together until the required length is obtained, after

which they are to be rolled into solid rollers for the convenience of passing them around the limb, and to enable the one who applies them to draw them evenly at all stages of their application. In applying the Bandage it is necessary to begin at the extremity of the limb, see Fig. 20, and every part of the limb must be covered evenly, lapping about one-half of the Bandage upon the previous round, and

FIG. 20.



BANDAGING.

in order to keep it smooth and not run up or down on the limb, it will be necessary to turn the Bandage upon itself, as the cross lines in the cut will show, wherever the form of the limb causes the Bandage to pass either way upon the limb from the center of the previous round. In this way the pressure is even, leaving no loose, or unbound place for an accumulation of blood, which would cause pain, and finally mortification. And it must not be applied so tight as to stop the circulation, for this would cause the same difficulty; the object is to *lessen* the circulation, but *not* to stop it entirely.

Most Ulcers, in their early stage, upon the legs, or arms, may be cured by judicious Bandaging, and keeping the Ulcer and the Bandage wet with cold water, or perhaps cold water $\frac{1}{2}$ and whisky $\frac{1}{4}$ as much, merely to stimulate a little. This mixture I have found better than water alone in dressings for cuts, bruises, etc., requiring water dressings. Our Homeopathic friends are very much in favor of the arnica-lotion in place of the cold water. It is certainly a valuable remedy if used in sufficient quantities to have its legitimate, or specific effects, say $1\frac{1}{2}$ drs. of the tincture to a tea-cupful of cold water. A common tea-spoon holds about 1 dr. Mix by pouring back and forth

from one cup to another, then keep the Bandage wet with it. Of this strength it does seem to have a specific effect upon fresh bruises, fresh cuts, etc. Two drs. of the tincture to alcohol, $\frac{1}{2}$ pt. is highly recommended in rheumatism of the joints, pains of the feet or limbs from walking, etc., to be used freely as a liniment.

BEEF—Scotch Method of Drying.—It is claimed that the Dried Beef as prepared in Scotland, brings a better price in Europe than that from any other country, and that American Dried Beef, especially if not seasoned sufficiently high to meet with favor in European countries. The Scotch prepare theirs as follows:

Take salt, 1 lb.; pepper, 1 oz.; cloves, $\frac{1}{2}$ oz.; the latter articles being finely ground—keeping these proportions for as much as is needed.

This mixture is to be rubbed daily into the meat, 5 or 6 days, which has been cut into suitable sizes, then hang up to dry. I have no doubt but what the majority of Americans would like it thus seasoned, in place of our custom of putting down in brine only, without pepper or cloves. And with this method of preparing it, in sections where Beef is plenty, it could be shipped to Europe with success.

Beef-Tea—Its Value in Sickness, and Manner of Making.—

Dr. Christison, the celebrated author on *poisons* and *poisoning*, claims that Beef-Tea is the best combination of *food* and *drink* for most cases of sickness, with which, I most fully agree, for I remember well, in typhoid fever, when I could take no other nourishment, or drink, I could take the Beef-Tea prepared by my wife, and feel perfectly satisfied on both points.

In places where fresh Beef can be always obtained, I much prefer to make the Tea fresh every day, to the preparations that are kept on sale, for there is a kind of a draw-back, or unpleasant taste to them.

1. To Prepare It.—Take nice fresh steak, free of fat, 1 lb., and cut it into pieces of $\frac{1}{2}$ an oz. or so, and put into a suitable sized bottle and cork it up, setting the bottle into a kettle, or basin of cold water, to be placed on the stove, having placed a piece or two of chip, or a small, thin piece of board on the bottom of the dish to set the bottle upon to prevent it from breaking the bottle, or burning the meat, and the amount of water put in must not be sufficient to float the bottle, putting in boiling water, from time to time, to make up for what boils away, and continue to boil until the meat has yielded its juices, or in other words the strength has been extracted; then season with a very little salt and pepper, if liked, and a tea, or a table-spoonful of this may be given to a patient, when nothing else can be taken. It is best, however, to add as much boiling water, to the extract, as you use of that, which makes it a little more like *drink*, and also enables a very weak stomach to relish it better, or rather to absorb it the better. A little experience, or practice, will enable almost any nurse to make this extract, or Bee-Tea.

2. Another method of making it is to take about the same amount of perfectly lean, tender Beef, and cut it as in No. 1, and put it into about a pint of cold water and bring it to a boil, and continue the boiling until the Beef is perfectly done, by which time all juices, or strength, of the meat will have been taken up by the water. Additional boiling water may be put in to make up for evaporation, making a pint of the Tea. In either case, only a very little salt, and the slightest bit of pepper will be needed to make them palatable to the sick. As the patient gains strength, a little cracker, or light bread, not less than 24 or 36 hours old, may be crumbed in, even before they might be able to swallow only the broth, or Tea, as an additional nourishment would be extracted from them; and as they still advance in health, the bread, or cracker can be eaten.

BEES—Young Ladies' Report of Success, in Wisconsin.—With those who have not been in the habit of keeping Bees, notwithstanding there has been sufficient instruction given under that head to enable any one to undertake it with success; yet, it is necessary to convince them that it will prove profitable before they will engage in it. And as there is nothing like actual facts to carry conviction, I have deemed it best to give this report, although it was received too late to be inserted in its regular connection. The letter, or report, was addressed to the *American Bee Journal*, by Miss Kate Grimm, of Wisconsin, whose father is extensively engaged in the Bee business. The report came to me through the *People's Journal*, of Sept., '72, introduced to the readers of the latter journal, with the following editorial remarks:

It is simply in proof of what we have so often advocated in these

columns, viz.: that Bee-Keeping is a very profitable operation, and very pleasant and proper business for ladies:

"MR. EDITOR:—If your time is not too valuable and space not too scarce, please insert the following short account of the last few months with my Bees.

"It was on the 29th of May, that my father came home from his Northern apiary, and told me that I was to take charge of it the next day. It was nothing very unusual to me, because I have done so yearly for the last 4 years, and therefore I was ready immediately to enter my services.

"June and July had always been the most lonesome months of the year for me, and so the former proved to be this year, but the latter was far different, as you will hear.

"When I first came here I had only 48 stocks to take care of, and indeed I must say that it seemed almost impossible for me to stay with so few, as I had been used to have at least over 100.

"During the month of June, I had 38 young swarms from the 48; but still they were far from being enough to give me a chance to spend all my time attending to them.

"When I came home one evening to report to my father (as I do every Saturday), I complained to him of my few hives, and told him that though they were very busy and doing their very best, I could not be satisfied; so he promised to send me more in a day or two. Two days afterward I received a load with 18 hives; in about a week another, and some days afterward a third one. Then I thought that there would be more of a chance to be doing something, and so indeed there was.

"The stocks which father sent me were mostly young swarms, some of which swarmed twice again, and some of them only once; so that after the 1st of July, I had 19 more young swarms, and a little honey, as you will soon learn.

"June 30th, father was here to examine my hives, when he also made 20 double hives, from which I was to extract honey about every three days, as he thought that during that time they would be filled. July 5th, I extracted my first half-barrel, which was 185 lbs. When I was through with it, I felt pretty well tired out and thought it was quite a task for one day; but I had then no idea of what was still to be done. July 8th and 9th, I extracted $1\frac{1}{2}$ barrels, so that I then had 2 barrels. July 14th, I extracted $1\frac{1}{2}$ barrels, and during the rest of the week, $2\frac{1}{2}$ barrels; July 17th, 2 barrels; July 19th and 20th, 1 barrel; and 4 or 5 days afterward filled the 10th barrel. By this time I had given up the notion of $\frac{1}{2}$ a barrel being a day's work. You will bear in mind, Mr. Editor, that I was all alone, so that I not only extracted the honey, but also took out the frames and put them in again.

"The room in which I lived all this time was so filled up with barrels and boxes that I feared its breaking down, and was obliged to have some of them removed to another apartment.

"This shows what can be done with Bees when there is a good season and they are properly managed. I am very certain that those 20 double hives, which were mostly young swarms, gave me three times as much honey as they would have given me had I not extracted the honey. Had there been two strong men, instead of a girl of 17 years, to take care of more double hives, we might have had a larger number of barrels of honey.

"With the honey extracted at home and at our Southern apiary (of which my elder sister takes charge), we will have nearly 35 barrels of honey, each barrel containing 370 lbs. How much box honey we will have I can not tell; but it will not be a little—perhaps 12,000 or 15,000 lbs. And all this honey was gathered by 290 hives—all that my father had left after his Spring sales—with their increase, making in all 614 hives. If the month of August should be as favorable for Bees as it was last year, we may have another 5,000 lbs. of Fall honey.

"Does not this show that Bee-Keeping pays? Even if Bees did sometimes sting me, so that I got almost discouraged, when the time came again to put on or take off honey-boxes, or extract again (which was almost every two days), I felt very much pleased that I could again fill several barrels. I did not blame my Bees for stinging me, and indeed would not have Bees which do not sting, else mischievous boys would come and steal the honey.

"I have not been absent from my Bees a single day for the last few months; but as the honey harvest is over now, I think I shall again get leave to come home.

"Of course I can say very little about Bee business, for I only take charge of my apiary during swarming and harvest time; but I am almost convinced that that is the time when the greatest amount of work is required. I have had to work very hard sometimes these last few weeks, but my work has indeed been rewarded."

Although this report would give its readers to understand that a *greater amount* of honey may be obtained by the use of the "extractor," yet, I would not recommend it in all cases, by any means, as I believe that it is generally understood that honey thus extracted is not likely to keep as well, nor does it fetch so large a price as that in small boxes; every one must judge for themselves which plan to adopt, from their nearness to market, and their speedy sales. But it certainly shows the business to be both *profitable*, as well as the fact that it is *well adapted to ladies*.

I will add but a word more, and that is to honor the one who made this report; she is worth more than her weight in gold. Yet it is only what every young lady should be willing to do, according to the circumstances in which she finds herself placed, *i. e.*, to make themselves useful wherever they are, no matter whether it is in *Bee-Keeping*, or *keeping the house*—both are alike honorable—but such activity and intelligent industry are so seldom seen, now-a-days, I must be excused for calling especial attention to their importance. Let others go and do likewise.

BIRD SKINS, AND OTHER ANIMAL SUBSTANCES, OR ANATOMICAL SPECIMENS—To Preserve.—The usual method of preserving Bird Skins, is by arsenical soap, made as follows:

White soap, white arsenic, and freshly-slacked lime, of each, $\frac{1}{4}$ lb.; carbonate of potash, $\frac{1}{4}$ lb.; powdered camphor, $\frac{1}{4}$ oz.

Shave the soap, and mix the articles, adding only sufficient water to form a paste. Apply carefully to all parts of the internal surface of the skin before stuffing, or putting up.

2. Alcohol has generally been used to preserve Anatomical Specimens; but, in the high price of alcohol, it has been found that good commercial glycerine, and water, equal parts, with the crystals of carbolic acid, 1 oz. to each gal. of the mixture, makes a reliable preservative.

3. To preserve the natural color of Specimens, take pure glycerine, and add alcohol, $\frac{1}{2}$ pt., and carbolic acid crystals, $\frac{1}{2}$ oz. to each gal.

BEERS, POPS, ETC.—The small Beers are made without the use of malt, simply using sugar and water, or molasses and water, as the base, and roots or oil, as desired, for flavoring to suit the taste of the sick, or to prevent the use of too large quantities of water, as a small amount of acid, by the use of yeast as a ferment, or by lemons or other fruit, or by both, has a tendency to quench thirst.

1. **Ginger Beer.**—Water 10 gals.; nice lump sugar, 12 $\frac{1}{2}$ lbs.; bruised ginger root, $\frac{1}{2}$ lb.; the whites of 6 eggs; yeast, 2 table-spoonfuls; lemons sliced, 10; isinglass, $\frac{1}{2}$ oz.

Put the ginger in some of the water to obtain the strength; then strain into the balance of the water, in which the sugar has been dissolved. The isinglass must be dissolved by heat, having been soaked over night. The sliced lemons having been well squeezed, may be added, and the yeast put in, the isinglass also. When all is mixed, let stand 3 or 4 hours, then skim off the lemons and squeeze out the juice, and strain all into a keg, or bottle, as preferred.

2. **Another.**—Water, 2 gals.; ginger root, pulverized, 2 ozs.; white or brown sugar, 2 lbs. (white sugar makes it without color, and brown gives color); cream of tartar, $\frac{1}{2}$ oz.; and 1 sliced lemon; yeast, 1 tea-cupful.

Put the water, ginger, and sugar into a kettle and boil for $\frac{1}{2}$ an hour; then skim and pour into a jar with the sliced lemon and cream of tartar; and when cooled, to be only a little warm, add the yeast, and let it work 24 to 36 hours, strain and bottle, tying the corks firmly. Of course it can be left in a keg; but is nicer to be bottled.

3. **Root Beer.**—An excellent Root Beer containing all of the *alterative* properties of sarsaparilla and sassafras, with the nice aroma (flavor) of the wintergreen is made as follows:

Sarsaparilla root, and sassafras bark (dry), of each, $\frac{1}{2}$ lb.; wintergreen leaf and stem, 3 ozs.; yeast, $\frac{1}{2}$ pt.; molasses, 1 $\frac{1}{2}$ gals.; water, 16 gals.; or enough to fill a common strong beer-barrel, if for draft, if not, bottle.

Bruise the roots, bark, and leaves, and boil, to get the strength, in 5 gals. of the water: then strain into the keg, if not to be bottled, and add the molasses; and when cooled, to 65° or 60°, put in the yeast and let stand 2 hours, when the keg is to be filled with the balance of the water. If it is to be bottled, this can be done in a tub, or jar, covering over, to allow it to work for 5 or 6 hours, then bung, or bottle as the case may be. It will be found a very valuable alterative, for a Spring, or Summer drink. Dandelion, or any other root desired, may be added, or substituted to suit any special case, in the line of alteratives.

4. **Ginger Pop.**—Notwithstanding this article is called "Pop," or "Ginger Pop," yet its proper place, I deem, is among the *Small Beers*. It is made as follows:

White, crushed, or "A" No. 1, coffee sugar, 15 lbs.; finely bruised ginger root, 7 ozs.; essence lemon, $\frac{1}{2}$ oz.; essence cloves, $\frac{1}{2}$ tea-spoonful; water, 16 gals.; yeast $\frac{1}{2}$ pt.

Pour a few qts. of boiling water on the ginger and steep for an hour, and strain into a tub; in which dissolve the sugar with 2 gals. more of warm water (not above 65°, if hotter, reduce with cold water

to that heat), and add the yeast and essences, stir and let stand for 2 hours; then add the balance of the cold water; and cork tightly, for use or sale. If this is properly done, it will "pop the question" pretty loud in a day or two.

5. **Spruce Beers.**—In case of sickness a very convenient way to provide an agreeable beverage, is to

Take water, 1 gal.; white sugar, $\frac{1}{2}$ lb.; oil of spruce, 20 drops; yeast 2 or 3 table-spoonfuls.

Drop the oil into a suitable jar, and having brought 1 qt. of the water to a boiling heat, pour it upon the oil; then put in the sugar and also put in the balance of the water, cold; and see that the sugar is dissolved, then add the yeast; then cover the jar with a coarse cloth, for 2 or 3 hours, or until you see that the Beer begins to work, at which time it should be bottled in small bottles, if it is for the sick, as it is not so good unless all is drank at the opening of the bottle. The next morning it will be ready for use, if kept a little warm over night; then a bottle or two can be placed on ice, or in cold water, to make it cool enough for use. Any other oil, the flavor of which may be preferred can be used in the same way.

6. The above spruce oil is from the common white spruce; but there is a preparation kept by druggists known as "essence of spruce," having a dark color, which is made by boiling the young branches of the black spruce, and concentrating it for purposes of making Beer, etc., which Prof. King, in his American Dispensatory, says: "enters into the formation of Spruce Beer, an agreeable and salutary Summer beverage, possessing *diuretic* and *anti-scorbutic*" (against scurvy) "properties, and valuable on board ships." His instructions for making it are as follows:

"Take of ginger, sassafras bark, and guaiacum shavings, each, 2 ozs.; hops, 4 ozs.; essence of spruce, 10 ozs.; water 4 gals.; mix them and boil for 10 or 15 minutes, then strain, and add 10 gals. of warm water, 3 qts. of molasses, and 12 fl. ozs." ($\frac{3}{4}$ pt.) "of yeast, and allow it to ferment. When the fermentation is going on, put the fluid in strong bottles, and cork them well."

This certainly makes a valuable alterative in any disease requiring such a medicinal action upon the system, and also a very pleasant drink, for common use in hot weather, if kept cool.

BELTING—The Kind that Saves Most Power.—Undoubtedly, much power is lost by using the cheapest Belting material, rather than to pay a little more and save all the power of the engine, or water-wheel. The *Scientific American* reports some experiments that were tried, by the Treasurer of the New York Belting and Packing Co. to settle a controversy which had been agitated there, on that subject, which showed that rubber Belting run on a pulley covered with rubber, is decidedly the best thing. The test was made by hanging a piece of the different Belts over a pulley and weighting each end with a 32 lb. weight to keep them tight; then weighting one end with other weights until the Belt slipped; and as any one can test the same thing on a small scale, if they choose, it is only necessary to give the result. The figures will speak for themselves, and were as follows:

A leather Belt on iron pulleys slipped at 48 lbs.

"	"	leather	"	64.
"	"	rubber	"	128.

A rubber Belt on iron pulleys slipped at	90 lbs.
" " " leather " "	128 "
" " " rubber " "	183 "

Sometimes persons think they need a larger engine, when the only trouble is, they lose about half of their power by using loose leather Belts.

It will be readily understood, no doubt, that the different kinds of pulleys are made by simply covering iron pulleys with rubber or leather, as the case may be. In the first 3 figures, the Belt was a 3 inch Belt of good quality, and in the last 3 the same size of a 3-ply rubber was used, making a fair test.

Belting—To Prevent Eating by Rats.—As it is best to oil leather Belting occasionally, in places where it runs through floors or in places that rats can get at it, 'tis best to use castor-oil for that purpose, as they are "opposed to taking castor-oil," like most children, unless "MADE PALATABLE," which sec.

BLACKBERRY CORDIAL.—Let the berries get fully ripe before they are gathered, then mash them, and let the juice and pomace remain together for 8 or 10 hours to give the Cordial a higher color and a richer taste than it would have possessed if the juice had been expressed at once. Add to 1 gal. of juice, 2 lbs. of loaf sugar; $\frac{1}{2}$ oz. each of finely pulverized cinnamon and nutmeg, and 2 ozs. of powdered allspice. Some add a few ounces of crushed raisins but they are not essential. Boil the mixture gently for 15 minutes; and when cold, add $\frac{1}{2}$ pt. of fourth-proof brandy, or the best rye whisky. Let the Cordial be stored in pint bottles, $\frac{1}{2}$ pts. are all the better, with the corks cut off even with the top, and covered with wax or pitch of any sort to exclude the air. It is always better to store such Cordial in small bottles, because the contents of a small bottle can be used up before it will spoil; whereas, if a large bottle is opened, if the Cordial is not used in a few days, it is liable to lose its excellent flavor.—*Pomeroy's Democrat*.

It does not matter from whose "Democrat" this Cordial comes from, it will be found highly beneficial in the bowel complaints of grown persons as well as children. It may be used freely, or in quantities to meet the requirements of the case. It is well to guard, however, against constipation, by continuing its use too long after an amendment has begun.

Blackberry-Root Sirup—For Diarrhea and Summer Complaints of Children.—Small roots of the blackberry, $\frac{1}{2}$ lb.; allspice, cloves, and cinnamon, of each, $\frac{1}{2}$ oz.; white sugar $\frac{1}{2}$ lb.; best rye whisky, $\frac{1}{2}$ pt.; water, 2 qts.

Wash the roots and cut them into small pieces, bruise the next 3 articles, and put them and the root into the water and boil to a pt.; then strain and press out all the liquid, add the sugar, and dissolve by heat; then, when cool, add the spirits and bottle for use.

DOSE.—A tea, to 1 or 2 table-spoonfuls, according to the age of the child, every hour, until an improvement takes place, then every 2 hours, or so, as long as needed.

If there is much sourness of the stomach, a tea-spoonful of the bicarbonate of soda may be put to 1 gill of the Sirup, and use as directed above.

BLACKBOARD-SURFACE—For School House Walls, Plaster, and Paints.—Knowing that the Blackboard has become

an indispensable article of school-furniture, I have deemed it quite important to obtain the best composition of plaster in finishing new school houses, and also for paints that will make a good surface to be used upon old walls, or upon the surface of well smoothed, soft pine, or poplar lumber, that has been perfectly seasoned, or upon the surface of heavy pasteboard, for Blackboard purposes, so that children can have them for home use; or that will be applicable for office use also.

I am indebted to Wickersham's School Economy, J. B. Lippincott & Co., Philadelphia, publishers, a copy of which ought to be in every school, or district library, for the principal receipts on this subject. The author is James Pyle Wickersham, A. M., principal of the Pennsylvania State Normal School, at Millersville, Pa. He says:

"A Blackboard should be placed immediately behind the platform and extend its whole length, and elsewhere all around the school-room whenever suitable blank wall can be taken advantage of. I never heard a good teacher complain that he had more Blackboard surface than he could use. The teacher will want Blackboards for his classes while engaged in reciting, and also for others who are preparing to recite. Young pupils can be profitably employed in drawing or writing on Blackboards while the teacher is hearing the lessons of older pupils.

"The Blackboard may be 5 ft. wide and extend to within 2 ft. of the floor.

"The best kind of Blackboards are made of slate. They can be had 4 or 5 ft. square; but they are too costly for general use. If wood is used, it must be well-seasoned pine or poplar, of fine quality, and the Blackboards must be well made and carefully painted.

"A cheap and serviceable black-surface for walls may be made by the following recipe: White finish, or white coating," (what plasterers call putty), "4 pecks; beach or other fine sharp sand, 4 pecks; ground plaster," (plaster of Paris), "4 pecks; lampblack, 4 lbs.; alcohol, or good whisky, 4 gals.

"This quantity," he continues, "will make a mixture sufficient to cover 20 square yds. of surface. A little flour of emery will prevent the mixture from 'setting' immediately, thus giving time to put it on the wall with the necessary care. If emery is not used, only a small quantity of the mixture can be put on at a time; and this is perhaps, on the whole, the best plan." (I should have said, only one-fourth, or a "small quantity of the mixture" should be made up at a time. And it will be proper to explain here, which he has not done, that the lamp-black must first be dissolved in sufficient alcohol, or whisky, before it is attempted to be mixed, at least it will be more evenly spread, if this is done). He goes on with the explanation of the manner of using it as follows:

"The wall which is intended to be covered with the black-surface should be plastered like the rest of the room, with the exception that the black mixture takes the place of the white coating, and is put on in the same manner. After the black surface is on the wall, it must be carefully dampened and rubbed, in order to fill up all the pores, and make the surface hard and smooth. If the old surface be well moistened, a new surface, composed of the same mixture, can be applied. The slate-surface now prepared by manufacturers in Philadelphia, New York, Boston, and other places, is in some respects, superior to any Blackboard-Surface known, except real slate."

The above, or the following paints will be much the cheapest, and give good satisfaction. The same work gives us the report of the Chicago Board of Education, containing the following Blackboard-paint:

"To make 1 gal. of the paint, take 10 ozs. of pulverized pumice stone, 6 ozs. of pulverized rotten stone, $\frac{1}{4}$ lb. of lampblack, and mix them with alcohol enough to make a thick paste. Grind the mixture very thoroughly in a clean paint-mill, and then dissolve about 14 ozs. of shellac in the remainder of the gal. of alcohol, stir the whole together, and the paint is ready for use. This Paint if well applied will make a good surface."

And it can be kept in a well corked bottle without hardening.

Mr. Wickersham closes the subject of Blackboards as follows;

"A frame should be placed around all Blackboards, with a trough at the underside to catch the dust. Hooks should be attached to them on which to hang pointers and rubbers. Prepared chalk and talc are used for Blackboard pencils."

Liquid Blackboard Slating.—The following receipt for Liquid Slating was sent to the County Superintendent of Public Schools for Washtenaw county, Michigan, Geo. S. Wheeler, by Prof. J. Estabrook, Superintendent of the Michigan State Normal School, at Ypsilanti, Michigan, and may be relied upon as good and practical. In his letter to Mr. Wheeler, after other inquiries, he says:

"The following is the receipt for Blackboard Slating: Alcohol, 1 gal.; gum shellac, $\frac{1}{4}$ lb.; rotten stone, ivory black, and lampblack, of each, 4 ozs."

"Put the gum shellac into the alcohol 24 hours before putting in the other ingredients. After mixing" (supposing the shellac to be all dissolved) "strain the whole through some kind of a strainer, cloth or sieve. Make the wall smooth with sand-paper before putting on the blacking. Two or 3 coats will be sufficient."

Blackboard Paint.—The following not only works well as a Paint on walls, but also on pasteboard:

Lamp-black, 2 drs.; spirits of turpentine, 4 ozs.; furniture varnish, 2 ozs.

Rub the lamp-black well with the turpentine, and mix in the varnish. One or 2 coats, according to the smoothness of the surface, may be used. Boys can get a sheet of large pasteboard, or binders-board, and paint it with this for home use.

1. BOOTS—Water-proofing and Softening.—To have a fine Boot soft, and at the same time Water-proof, is a very desirable thing in wet and snowy weather; but it is easily done in the following manner:

Neatsfoot-oil, and castor-oil, equal parts of each. Shake well.

This may be applied and rubbed in with the hand. The neatsfoot-oil penetrates the leather very easily and keeps it soft, while the castor-oil remains upon and near the surface, giving it a glossiness, and resisting the entrance of water; and, if desired, enabling a coat of polish-black to soon give a "shine" to the Boots.

This preparation was given to me by Mr. C. J. Brown, of Monroe, Mich., an old gentleman, whose business for over 20 years has been the making of fine Boots. And while he was making a pair for me, he heard that I was getting out a Second Receipt Book, and manifested a desire to contribute his "mite" towards it, so he gave me

this, and the one for COARSE BOOTS, below, and also the BLACKING FOR THE EDGE, which he had used during some 15 years, with entire satisfaction. I used No. 1 during the Winter of '71, and found it perfectly satisfactory. Some persons, however, may prefer to use the castor-oil alone, as the Boot will take a little better polish, if desired at any time, but the combination of the 2 oils, as above, makes the leather a little softer.

2. Water-Proof, for Coarse Boots.—Beef tallow, 12 ozs.; bees-wax, 6 ozs.; resin, 1 oz.; neatsfoot-oil, and castor-oil, of each, 1 gill.

Mix by heat, and apply hot; or else heat it by the fire. Once in 8 to 12 days; according to the weather, snow, etc., will be sufficiently often to apply either of these preparations.

3. Blacking Liquids, for Boots and Shoes—French Polish, etc.—Molasses, 4 ozs.; sweet oil, $\frac{1}{4}$ oz.; ivory-black, 5 ozs.; vinegar and lager beer, of each, 1 gill.

Rub the 3 first articles together until the oil is obliterated; then stir in gradually, the vinegar and beer, and stir until the mixture is complete, bottle and cork for use. To be applied, the Boots or Shoes being clean and dry, with a bit of sponge upon a wire.

4. Oil-Paste Polish Blacking, for Boots and Shoes.—Notwithstanding that during the Winter, a water-proof Blacking may be needed by those who work in the snow and water, yet, during the greater portion of the year, a *polish* Blacking gives a Boot or Shoe, a much more tasty and genteel appearance. And I think that those who try the following one will be highly pleased with it, both in its *fine polish*, and in its *not injuring* the leather, as the amount of vitriol (sulphuric acid) is only sufficient to cut the oil which allows it to take a *polish*—without, it would not polish at all:

Ivory-black, $\frac{1}{2}$ lb.; molasses, $\frac{1}{2}$ pt.; sweet oil, and oil of vitriol, of each, 1 oz.

The ivory-black should be of the finest quality—a coarse gritty article will not do. Mix the 3 first named articles thoroughly together; then put in the vitriol, and stir briskly, while it is foaming, being sure to stir the vitriol into the whole of the mixture, as upon this depends the polishing quality of the Blacking. A jar, or large earthen bowl makes a suitable dish for mixing it in, although if it is made in large quantities, for boxing, and sale, it may be made in wood. The mixing in of the vitriol makes a foaming, or yeasty rising of the mixture, giving also considerable warmth. When it becomes cool, by which time the foaming, or effervescence from the introduction of the acid, will have subsided, it may be put up in boxes, if it is being manufactured for sale.

5. Blacking for the Edge.—Alcohol, 1 qt.; tinct. of iron, 4 ozs.; pulverized nut-galls, 2 ozs.; ex. of logwood, 3 ozs.; ink-powder, 1 paper.

Mix all together, and shake 2 or 3 times daily for a week or 10 days, by which time it will have fully extracted the strength from the powder. This probably makes the very best Blacking, for Boot and Shoe Edge, in use.

6. Boots and Shoes—Cement for Mending.—Raw gutta-percha, 1 oz.; resin, the size of a hen's egg; bisulphuret of carbon, 1 lb. Dissolve the gutta in the bisulphuret; then add the resin; when all is dissolved, bottle for use. The leather must be clean, and scraped a little to make it adhere. This of late years has been quite

an item with "street-corner peddlers." It holds a patch, upon fine leather, very satisfactorily.

1. BOILING OIL—For Carriage Painting.—Linseed-Oil for painting Carriages should not have as much driers in it as for ordinary painting; and it had best be done in an iron kettle set in an arch, so as not to allow the fumes to come in contact with the flame. Salphate of zinc, 1 oz. only to each gal. of oil, adding it slowly, to prevent it from foaming over, stirring well all the time it is being added, and when the oil becomes "ropy," it is done. If too much driers are used, it dries so quickly as to be liable to crack.

1. BREAD MAKING—From Yeast, Yeast Cakes, Salt-Risings, etc.—The Bread question is of vital importance to every family which do not use "bakers' Bread;" for it matters not how good every thing else may be upon the table, if the Bread is poor, there are but a very few persons who can make a good meal, and feel satisfied. And the question with the lady-of-the-loaf is, how can I make good Bread with the least labor and trouble? The leading object of a Receipt Book is to give the most practical way of doing these things, and if it does not, it (the Receipt Book) is a failure. I think, however, that a knowledge of the fact, that over 500,000 copies of my first Receipt Book have been sold, may be taken as a fair evidence that the second shall not prove a "failure," but rather give an assurance of its success.

Then, for those living in towns, or cities, where good yeast can be obtained, the least labor is to get, for a baking of 4 or 5 loaves, 2 cts. worth (about $\frac{1}{2}$ pt.) of yeast, in the evening, and put it into a 4 or 6 qt. pan, in which is about 1 qt. of milk-warm water, and put in a tea-spoonful of salt, and $\frac{1}{2}$ tea-spoonful of baking soda; then sift in as much nice flour as will make it the consistence of pan-cake batter; now cover up by turning another pan over it, or a board, and, if it is not extremely cold weather, let it sit on the table over night; but, if very cold, sit it where it shall be moderately warm, and in the morning, not generally until after breakfast, it will be light and ready to proceed with the mixing, which is done by putting in about a table-spoonful of lard, then sifting in flour and stirring with a stiff spoon until you can put it out upon a floured-table, or bread-board, and continue to work in more sifted flour until it has been brought to a proper stiffness for baking; now divide into about 5 loaves, having molded or kneaded it well, and place them in a warm place for about 1 hour, or until it has risen, then place in a hot oven to bake; and, if these things have been done with an ordinary care, you will have good Bread.

In place of the fifth loaf, if that amount of the dough is taken, and a table-spoonful of butter worked into it, and molded into Biscuit, and set to rise the same as the Bread, you will have them fit for a king.

The oven should be watched so as not to scorch, or burn the bread, and when fully done, take out, and with the finger, or a bit of clean rag, rub a little butter over the top crust, which keeps it from drying up and becoming hard and unpalatable.

Those who use the YEAST-CAKE risings will refer to that subject to get their "yeastings," or sponge, then proceed as above; and those who prefer, or those who live in the country, too distant to obtain yeast, or wish to use salt-risings will be governed by the following

directions of Mrs. Call, who had sufficient confidence in her plan to send it to the *Scientific American* for publication. She says:

"In order to have good Bread, there are *three* things very essential—*good flour, good risings, and a careful hand.* Now if my lady friends will comply with the following directions, I will guarantee them as good Bread as was ever broken by mortal. "The day of hop-yeast has gone by," (not in hotels in the backwoods). See HOP-YEAST IMPROVED. "It is not used by the country folks at the present day, only by here and there a family." Here is her way of making Bread:

2. "Water-Risings, or Salt-Risings.—Take a quart pitcher and a spoon—scald them thoroughly—fill the pitcher $\frac{1}{2}$ full of boiling water from the tea-kettle, which has been drawn fresh from the fountain. Let the water cool to the temperature of good hot dish-water" (not so hot but what you can hold your hand in it); "stir in sifted flour sufficient to make them as thick as pan-cake batter; add $\frac{1}{4}$ of a tea-spoonful of salt and as much baking soda; cover them closely, set them where they will keep quite warm" (in a dish of warm water is a good way); "stir occasionally. They will rise in 5 or 6 hours.

3. "Wheat Bread.—Milk is the best wetting for bread—water will answer." (Half milk and half water is my plan, and my folks think that it is better than all milk). "Stir the wetting into the flour quite warm, then add the rising; stir it all together to make a sponge. When sufficiently light, mix and mold into loaves. Let it rise again. The oven should be hot enough to bake a common loaf of bread in 30 minutes" (it generally takes us about 1 hour) "without scorching or hardly browning in the least. Bread should never be cut until it is 12 hours old, and then only what is to be eaten immediately; better cut again than to have a plateful left. Who can bear to eat Bread that has been sliced and dried a day or two?"

4. "Raised Biscuit.—Take some of the Bread dough, when light, knead a piece of butter as large as an egg into dough enough to fill a long tin—mold into small Biscuits—let them rise again; bake for 20 minutes" (until done).

5. "Indian Bread.—Take 2 qts. of Indian meal, pour on boiling water enough to make the meal quite wet; when cool, add 1 qt. of flour; $\frac{1}{2}$ pt. of risings, a little salt, and $\frac{1}{2}$ a cupful of molasses. Mix altogether, put into large basins and let it rise; bake for 3 hours, with a slow fire."

6. "Johnny-Cake.—A Johnny-cake, to be eaten with meat, should be made as follows: 1 tea-cupful of sweet milk and one of buttermilk, a little salt, and a little soda; stir in meal enough to make a soft batter; bake 40 minutes."

The yeast plan, above, is the way our family bread has been made for years. Mrs. Call's plan will make good bread; but, as she says, it requires "a careful hand." If the salt-risings is scalded too much, either in the making, or in setting them into water that is too hot, or too near the fire so as to over-heat them, or if they are too cold, "the old-nick is to pay"—the hogs get the risings, or the Bread; but it can be done, and has been many thousand times, and got very excellent Bread; then "what has been done can be done again." Should any one fail once or twice, let them "try, try again." When salt-risings are set, if water settles upon the top, stir in a little more flour.

7. Potato Bread.—There are many house-keepers who use Potatoes in Bread, from the facts that the risings come up better by

their use, and the Bread is sweeter and keeps moist longer. The plan of proceeding with them is as follows:

For 4 or 5 loaves of Bread take 3 or 4 good sized potatoes—those that are white and mealy are the best. Wash, peel, and slice up the potatoes; then rinse, and put them into 1 qt. or a little more of water, and boil them perfectly. Drain off the water into a qt. dipper, or some measure to know that you have 1 qt. of this potato-water. Set it by and mash the potatoes very fine, then pour in the water in which they were boiled, and stir thoroughly together. Now if you use yeast, it will require about 1 cupful (understand in all baking and cooking receipts, when *cupful* is mentioned, a common tea-cupful is what is meant), to be stirred into this potato-mixture, it having become so cool by this time that the yeast shall not be scalded—if scalded it is spoiled—then put in 1 tea-spoonful of salt, and $\frac{1}{2}$ as much soda, and sift in as much flour as will make it the consistence of pan-cake batter. This should be done in a pan of sufficient size to hold all of the Bread, or dough which is to be made in the morning; for it is the most convenient way to make, or as it is called, “set your yeast over night,” as the cooking of the potatoes can be done at the same time “tea” is being prepared. When the “yeastings” are thus prepared, cover them up and set them in the cellar over night, by which they are kept cool in Summer, and warm in Winter, and by the time that breakfast is over, next morning, your sponge, or yeast will generally be ready to mix the Bread.

Yeast-cake may be used in place of yeast, if any one chuses; and if it is used, while the potatoes are boiling, take about 1, or $1\frac{1}{2}$ of any good YEAST-CAKE, which see, and break them up and put to soak in a little moderately warm water, so it shall be soft by the time the potato-mixture is ready, and stir in, the same as though yeast was used.

In the morning, when the sponge is light, if there is any sourness manifested in the sponge, put in a little more soda, not more than was used at first, and none unless there is sourness. Soda, when used in any case, should always be pulverized and dissolved in a little warm water. About as much more salt will be needed in the morning as was used at first; then sift in flour, stirring it in with a stiff iron spoon, until it is as stiff as you can well stir it, after which it may be emptied from the pan, upon a flour-dusted Bread-board, or table, and kneaded to the proper consistence. Now place it in the Bread-pan and cover with a cloth, letting it stand until light, when it should be molded into loaves, kneading in only so much more flour as will enable it to be handled without sticking. If it is left rather soft, the Bread will be lighter, and keep moister. About 1 hour will bake it if the stove is in good condition, and the fire, or heat as it should be to bake properly. This plan has also proved very satisfactory with us.

8. Another.—The following plan of making Bread is from a neighbor lady, Mrs. L. L. Trauger, wife of a man who has acted as an agent in selling books for me for several years, so you may place implicit confidence in the receipt, and besides this, it gives a plan for making yeast, which will accommodate those who live where bakers', or brewers' yeast can not be obtained. In 4 years' use of it they have not had a failure in obtaining good Bread, I think, therefore, that she is the “careful hand” that Mrs. Call says is necessary to insure good Bread. The yeast is made as follows:

9. Hop-Yeast—Improved.—To make the Yeast, first wash, peel and slice up what will make $1\frac{1}{2}$ pts. of potatoes; tie up in a cloth, a good single handful of hops, and boil the hops and sliced potatoes together. Take out the hops and squeeze out all the water from them, then drain off the water, for use, and mash the potatoes again with the water in which they were boiled. Take 3 heaping table-spoonfuls of flour, and pour upon it 3 qts. of boiling-hot water, as for making starch. Now add 1 cupful of sugar; $\frac{1}{2}$ of a cupful of salt; 1 table-spoonful of ground ginger, and stir well and mix with the potato-mixture; when only milk-warm, add 1 cupful of good brewers' yeast. Keep it warm until it is light; then put it into a stone jar, and cover it well and place in the cellar, so it shall keep cool in Summer and not freeze in Winter.

Our cook made a yeast so near y similar to this, while we were in the Hotel, at Sauk Rapids, Minn., which worked with such entire satisfaction, that we know this may be depended upon.

10. To make the Bread, proceed as follows: For 7 small loaves, take about $\frac{3}{4}$ of a common milk pan of sour milk (it will be just as good, even if it has thickened, or what is called "lobbed"), scald it and pour off the whey to use in place of water. When this is cooled to "milk-warm," sift, and stir in the flour, and 1 cupful of the above yeast, and let stand over night, as other risings. When ready, in the morning, knead in the proper amount of sifted flour to make the dough of the right consistence. Let stand in the pan to rise, then knead into loaves, and when properly risen again, bake. Mrs. Trauger has made her Bread after this plan for 4 years, without a single failure.

11. Boston Brown Bread.—Rye flour, 4 cups; wheat flour, 1 cup; corn meal, 2 cups; molasses, $1\frac{1}{2}$ cup; salt, 2 tea-spoonfuls; cream of tartar, 4 tea-spoonfuls; soda, 2 tea-spoonfuls; mix soft, with milk, or water if you have no milk. The soda should be the last to stir in; then put into a deep pan and steam 3 hours. Some persons may desire a little more salt.

12. Graham Bread.—Graham flour, 5 cups, or sufficient to make it of cake consistency; sour milk, 2 cups; molasses, $\frac{3}{4}$ cup; saleratus and salt, of each, 1 tea-spoonful. Put the milk, molasses, and salt into a pan; then mash the saleratus and dissolve it in a little of the milk, then stir it into the whole, and immediately stir in the flour. Butter a 2 qt. pan and steam 2 hours. If you have no steamer, bake in a ready oven. Dyspeptics will find this Bread, or the Biscuit, just the thing; and it would be better for us all, if we ate more of it than we do.

13. Graham Biscuit.—Proceed the same as for Bread, only it will require enough more flour to make it stiff enough to roll out. Butter the tin, and bake directly.

14. Indian Bread.—Butter-milk, 1 qt.; Indian meal, 4 cups; wheat or rye flour, 2 cups; molasses, 1 cup; salt, 1 tea-spoonful; soda or saleratus, 1 table-spoonful. Milk, molasses, and salt first mixed; then the soda dissolved in a little of it, and mixed in; then the flour, and lastly, the meal. Steam 3 hours, or bake 2 to 2 $\frac{1}{2}$ hours.

15. Biscuit.—As Biscuit so often take the place of Bread, I will give the process of making them, in this connection.

Flour, 2 qts.; butter, the size of an egg, (of course, hen's egg), salt, 1 tea-spoonful; baking powders, 2 tea-spoonfuls; baking soda, 1 tea-spoonful; sour milk, sufficient.

Sift the flour and thoroughly, mix in the baking powder and the salt, dry; in warm weather work in the butter cold; but in cold weather melt, and work in; mash the soda and put it into a cup and put on sufficient of the milk to dissolve the soda, then pour it into the flour and mix, adding more milk until the flour is all wet up, rather soft, as much so as you can roll out. Cut out, or mold, and place in tins, and bake in a quick oven. Many persons claim that sour milk, can not be used with baking powders; but we know it can by using the soda, and makes a richer and nicer Biscuit. So they may be made very nicely, also, without the baking powder, using the soda and sour milk, and even sweet milk, or water does very well, but either of them are to be used cold, especially so if baking powder is used. Most persons eat hot Biscuit. I prefer mine the next day after the baking—for taste, as well as for health's sake.

16. Bottle Yeast—Valuable for Families—Started Without Yeast.—Flour, $\frac{1}{2}$ lb.; brown sugar, 2 ozs., or $\frac{1}{2}$ a cupful; water, 1 gal.; salt, 1 tea-spoonful.

Stir all together, and boil for 1 hour. Remove from the fire and when cooled to milk-warmth, bottle and cork up tightly. In 24 hours it will be ready for use. It will be active, and may be used as other Yeast. This came from the chief baker to the "34th" New York regiment during the war. He was formerly in service, as baker to Lord Lyon. The sugar and the boiling establishes the Yeast, or fermenting principle, and enables any one to have good Yeast whenever flour and sugar can be had, almost everywhere. It will often throw out the corks unless put in very firmly, or are tied down.

My family find better satisfaction in making Bread with this Yeast, than by any plan of using hop or brewers' Yeast, as the Bread is more like salt-risings Bread, whiter, more moist, and does not dry up as fast as *hop-yeast* Bread.

They set the risings over night, using 3 or 4 good sized white potatoes, nicely mashed and mixed in with the Yeast, setting it in the cellar over night. In the morning they are generally ready to make up the Bread, as in other plans, set to rise, then mold out and put in pans, and when light bake as usual.

A Mrs. Hammond reports through *Hearth and Home*, her success with Graham Bread, Gems, Brown Bread, and Parker-House Rolls, (the Parker House is one of the best, if not the Best Hotel in Boston), which will be found of value to many persons, and by-the-way, permit me to say that it would "pay" every farmer in our land to have the *Hearth and Home*, or the *American Agriculturist*, of New York, as a family adviser. Mrs. Hammond's remarks upon these Breads were as follows:

"It was always a marvel to me how any one could relish Graham Bread. But John was a dyspeptic, and truly believed 'bran Bread' was the saving of his life; yet he ate it as a holy father wears hair-cloth, and goes to bed on a couch of spikes. I always sighed 'Poor fellow!' when I saw him mumbling away at his dry slice, until after a long course of experimenting we had sweet, nutritious Graham Bread, which it was no gastronomic penance for either John or myself to eat. Indeed, our breakfast-table is seldom without it, either in the form of Gems or raised Biscuit.

"For this I sift the meal to lighten it, but use the bran, mixing it thoroughly with the flour again. I know a housekeeper who gives

the bran to the horses! The object of buying *Graham* flour, with this purpose in view, is not obvious. I have found no one who sifts it, if intending to use the bran, but it certainly is much better sifted and mixed together again.

17. "**Graham Bread.**—One quart of the meal, as prepared above, a $\frac{1}{2}$ cup of yeast, and a little salt. Mix with little more than a pint of warm water. In Winter, milk or part milk may be used. In the morning add flour, but not enough to allow it to be kneaded. If Biscuit are required, take a piece of the dough, flouring it and the hands, and work it lightly into little round Biscuits. Fill a pan, crowding the Biscuit a little. Leave it 1 hour in a warm place. Bake in a hot oven. If a loaf is preferred, pour into a pan after the flour has been added and thoroughly stirred in. Raise 1 hour before baking. I have seen it suggested somewhere that the bran, fermenting sooner than the flour, and before the sponge is raised enough, is the cause of the usual sourness of this Bread; that adding the bran when the sponge was nearly or quite light enough, would obviate this. I would like to know if any one has any *practical* knowledge of this method. My own judgment is that the molasses, considered essential, causes the acidity, and I do not use it.

18. "**Gems.**—To make this simple but nutritious and palatable form of Bread, one requires a cluster of little iron patty-pans, with which some readers are familiar, but more are not. They are found now, I think, in all large places, and if not, can be readily cast at any foundry. The pan at hand, make a thick batter of Graham meal, a little salt and warm water, giving it a thorough stirring and beating. The consistency of the batter is not so important an item as that the Gem-pans should be heated just right when the batter is put in. It should not scorch, but it should *sizzle*. Heat the pans, as the Gems will be lighter and less crusty. Bake in a hot oven. When they will slip out of the pan they are done. They are quite as nice warmed in the oven when a day or two old as when just baked. They can be made with milk and 1 egg to about a quart of the flour, but they have not the pure wheaten flavor of the water Gems.

"If the following directions are closely observed, the housewife will have Brown Bread unequalled, save by the famous 'BOSTON BROWN BREAD,' see No. 10, above, and not surpassed by that.

19. "**Brown Bread.**—Prepare the meal like the Graham; sift, but turn back the bran and use it.

"Two and a half cups of Indian meal; $1\frac{1}{2}$ of rye—both measured after being sifted; $\frac{1}{2}$ cup of molasses; 1 cup thick sour milk; 2 cups sweet milk; 1 tea-spoonful of soda. A cup of sweet milk and 2 tea-spoonfuls of cream tartar can be used instead of the sour milk, with equal success. Pour this batter into a 3 pt. pail, or any vessel of about that size which can be covered tightly. Place it in a kettle containing boiling water enough to come half-way up the sides of the pail. Cover the kettle and keep it boiling $3\frac{1}{2}$ hours. Set the Bread in the oven 15 minutes, to dry off. Water must be kept boiling, with which to fill up the kettle as it boils away. It must be watched closely, but when it is done the cook will be well repaid for her trouble. Cut the slices round the loaf, and if you have a healthy stomach, eat the Bread while it is warm.

"As a finale. I will give a receipt for the most delicious achieve-

ment I have yet found in the way of Bread. This must be made in the morning.

20. "Parker-House Rolls.—One quart of flour. Make a *well* in the center, heaping the flour high as possible about it. Pour in a $\frac{1}{2}$ cup of yeast. Warm $\frac{1}{2}$ pint of milk, with a tea-spoonful of white sugar, a lump of butter half the size of an egg, and a little salt. Stir it in gently with the yeast, preventing it, if possible, from running over the flour. Place it in a warm room, but not a very warm place. At noon, mix it and knead thoroughly. Possibly a little more flour may be required. Let this sponge rise until an hour before you desire to bake the Rolls. Work it over again; roll it out half an inch thick; cut it into strips about 4 inches wide, and perhaps 6 long. With the hands, roll the two short sides towards one another until the two rolls meet; pinch up the ends into the usual form of Rolls; rub melted butter over the top, to give them a rich brown when baked. Place them in the baking-pan so they will not touch. Allow them to stand an hour, then bake in a quick oven.

"None of the above receipts are theoretical only; I have tested them thoroughly, and she who may use them as a guide will surely have a variety of nice, healthful Bread."

21. Corn Bread—Prize Receipt.—Orange Judd, who publishes both the *American Agriculturist* and the *Hearth and Home*, is a very enterprising and energetic man, and has always sought to give his readers of either of those journals, the most practical information upon all subjects in *agriculture*, and *domestic economy*; hence, he offered a Prize of \$10 for the *best loaf of Corn Bread*. It was awarded to Mrs. James O'Brien, of Cassick, Pa. The Receipt for making this Bread is as follows: To 2 qts. of meal, add 1 pt. of Bread sponge; water, sufficient to wet the whole; add $\frac{1}{2}$ pt. of flour, and a table-spoonful of salt; let it rise; then knead well for the second time, and place the dough in the oven, and allow it to bake 1 $\frac{1}{2}$ hours.

L. BREWING.—Brewing is the act of making Ale, Porter, or Strong Beer, called Brewing; and although in a Receipt Book, which embraces such a variety of subjects, it would not be expected that a full description of a first-class Brewery should be given. And it is not necessary, for persons who design to go into Brewing for a *life-business*, are expected *first* to learn the trade, as it is called, and *secondly*, to obtain and study the best works which are devoted *entirely* to this branch of industry, but it will not be amiss to give a description of such utensils, or articles used in Breweries, that must be obtained by families which desire to make domestic Ale or Beer for home use, to supply the place of those used by large establishments.

First.—A large copper-boiler capable of holding 25 much Beer, or Ale as is intended to be made at one time, as the *worts* (the extract of malt used in Brewing), have to be boiled with the hops. Iron will answer, and if, for family use, a kettle has to be purchased, I should have one made of light-boiler iron, riveted together, capable of holding either 60 or 130 gals. according to the amount to be made at one time: for this would do well for boiling vegetables for purposes of feeding cattle, hogs, etc., when not in use for Brewing, and no danger of breaking as with the cast cauldrons, although they will answer the purpose.

Second.—A mash-tub, or mash-tun will be needed. In Breweries, the mashing, or stirring, is done by machinery; but for family use

the mashing, or stirring of the malt, when the scalding water is put upon it, can be done satisfactorily by hand, having an oar-like paddle 3 or 4 feet in length, for that purpose. The mash-tub should have a faucet, or plug close to the bottom for drawing off the worts. Also a perforated false bottom. The false bottom should be loose to allow its being taken out for the purpose of scrubbing, or washing, as all articles used in Brewing must be kept perfectly clean. Any mechanic capable of making these articles will have seen sufficient of them to know how to get them up, if you give him the amount of malt to be used in a Brewing.

Third.—Shallow coolers, to cool the worts, 628, in large amounts, and 65° in small, is about the proper temperature. By stirring often, however, this cooling can be done in a tub or tubs, or a barrel sawed in halves, unless you desire to Brew large amounts at one time.

Fourth.—Large dippers for boiling, unless the boiler is furnished with a faucet at the bottom for running off the worts; but buckets and common dippers will do for family Brewing; and casks, of course, to hold the Beer or Ale. A tunnel-tub, or pail (a pail with a tube in the bottom) of a suitable size to go into the bung of the casks, for filling. But, on the small scale, a common tin tunnel, or funnel, will answer every purpose.

Fifth.—A hop-strainer, or coarse seive, and a thermometer, will complete the apparatus necessary to provide for the Brewing. The thermometer is an absolute necessity, as the water must be of a certain heat for mashing, and the worts of a certain degree of heat to start the fermentation aright.

If these articles are properly made they will last a life time with proper care. With these articles all on hand, (or such as you design to use in their place), and perfectly clean, by washing—scrubbing with a broom—and clean boiling water, as the case may demand, the malt having been coarsely ground, and good hops provided at the rate of 1 lb. for each bu. of malt to be Brewed, and yeast, you are ready to begin operations.

And now, as to amount, for families, probably the amount to be made will oftener be 1 barrel, than more or less; and, hence for:

2. Good Ale for Family Use.—For 1 barrel of 36 gals., take 3 bushels of good malt, coarsely ground; good hops, 3 lbs.; good yeast, 2 qts.; and good soft spring water, is best, and it will require about 80 to 100 gals. to be on hand, as this will also make an extra 10 gals. of pretty good Strong Beer, if desired, especially so, if about 2 lbs. of sugar and $\frac{1}{2}$ lb. of extra hops are added to the worts of an extra mashing.

Now bring to the boiling point, 35 to 40 gals. of the water; and then withdraw the fire, and let it cool to 180° Fah., if to be run into the mash-tub by faucet and spout; but if the water is to be dipped out and put upon the malt, with buckets, it should not be less than 185°, as the bucket, handling, pouring, etc., will loose more heat than by the running process; for we want the heat in the *first* mashing to be not below 170° nor above 175°—32 gals. of water is the right amount to place in the tub; then put in the 3 bus. of malt, 1 bu. at a time, mashing (stirring) well. The whole to be stirred in within 20 minutes, at farthest; then cover the tub and allow it to stand about 3 hours to extract the strength of the malt. During this time have the same amount more of water made hot, for the *second* mash.

Now draw off the worts into a suitable tub (supposed to be about 22 gals.), and then put on some 34 gals. of water, for the second mashing, at not less than 180° and stirring well for 10 or 15 minutes; then cover up as before, for 2 hours.

The balance of the water in the boiler, if about 15 gals., will be now hot, for the *third*, or Beer mashing; which is now to be drawn off, to clear the boiler for receiving the *first* worts, to give a place for drawing off the *second*, which are to be added to the first, in the boiler, reaching 52 to 55 gals.; then, renew the fire to bring these worts to a boil, as soon as may be, and at once proceed with the mash for what the English call "*Table-Beer*."

The mixed worts are to be boiled for $\frac{1}{2}$ an hour before the hops are put in; then add the hops and continue the boiling for 1 hour longer; which, if too much worts have not been drawn off, would reduce them to about 38, or 37 gals.; now withdraw the fire again and let the hops steep for $\frac{1}{2}$ an hour longer; then draw off, or dip off, as the case may be, and strain through the hop-strainer, to remove the hops; and when cooled to 62° on the large scale, or 65° for the one-barrel plan, add the yeast, 2 qts., and mix well together. And in from 30 to 36 hours the fermentation will, probably, have been sufficient for putting into the cask; this will be known, however, by the sinking, or beginning to sink, of what is called the *head* (yeasty foam on top of the Beer).

The bung is to be left out of the cask to allow the yeast to work over for a day or so, and the cask may be filled from time to time with what remained, or with the *Table-Beer*.

The English people, at the sinking of the head, rather when it begins to sink, throw over the surface, *flour* and *salt*, at the rate of 2 ozs. of flour and $\frac{1}{2}$ ozs. of salt to each barrel of Ale, and stir in and turn, or put in a cask at once.

After the Ale is filled into the cask, or barrel, or kegs, if such are used, in place of a barrel, it will still work, or ferment a little more and run over the bung, and it must be kept filled up every hour or two, from what worts that were kept over for that purpose, until the fermentation is over or until the yeast does not work out at the bung any more, when it should be bunged up tight.

3. The Beer-Wort, or that from the *third* mashing, after the strong worts are out of the way, is boiled for an hour; then the hops from the Ale, with the $\frac{1}{2}$ lb. additional hops, and the 1 lb. of sugar, will be added and boiled for 30 minutes longer.

4. Strong Beer—For Table, or Family Use.—A very good Strong Beer is made by using 1 bu. of malt for 1 barrel of Beer, with hops, $\frac{1}{2}$ lb.; or, for $\frac{1}{2}$ barrel keg, $\frac{1}{2}$ bu. malt, $\frac{1}{2}$ lb. of hops.

Water for *first* mash at 172°—mash $\frac{1}{2}$ hour, cover the mashing-tub and stand 1 hour, draw off. For the *second* mash, water to be 180°—mash $\frac{1}{2}$ hour, cover and stand 2 hours; and boil 2 hours; putting in the hops at the middle of the boiling. When cooled to 72°, put in the yeast; and in 24 hours put into the keg for cleansing; bung down when the fermentation is not quite worked out. This should not be made in quantities to last more than 2 or 3 weeks, as the strength of malt and hops will not keep it longer.

5. It may not be amiss in this connection, to say that a very good and palatable Strong Beer can be made of *shorts* and *bran*, which has been found to keep better in Summer, even than that made from

malt alone. This is supposed to be accounted for from the fact of there being less sucharine (sweet) matter than is found in the malts. As some families may desire to have some kind of Beer, in sections of the country where malt and Brewers' yeast are not procurable (as yeast-cake dissolved in warm water, or family yeast can be used for this, although it is not equal to the other, yet, it answers a passible purpose). I will give the proportions, and directions, which are as follows:

For 1 barrel of Beer, 30 to 35 gals., take good shorts, 2 bu.; good wheat bran, 1 bu.; hops, $\frac{3}{4}$ lb.; yeast, 1 pt.; or, brewers, or family yeast to equal it in strength, or to cause a moderate fermentation, good mustard, $1\frac{1}{2}$ ozs.; sugar, 4 ozs.

Have the water for the *first* mashing at 150°, and put in a part of the shorts, say $\frac{1}{2}$ first, and mash well then half of the bran and mash (stir) well again; then the balance in the same way. Let the mashing, or stirring be continued 20 to 30 minutes; and cover up and stand 2 hours, and draw off; and make the second mashing at 165°, and cover and stand 1 hour only before drawing off.

Boil the first drawing of worts for 1 hour with half of the hops; and the second for $1\frac{1}{2}$ hours, as it is weaker; with the balance of the hops, mustard and sugar, which have been boiled down to thick coloring, by burning a little, then putting in a little hot water to prevent it from hardening when cold. This is merely for coloring with a little "twang" from the mustard, which can be omitted if chosen, or can be used without the burning, if there is no desire to imitate Strong Beer color.

6. Brewing Light Ales, or Table Beer.—A very simple and a very satisfactory manner of Brewing Light Ales, or Table-Beer was recently communicated by G. S. P., of Mass., in answer to J. A. R.'s query, No. 9, page 138, vol. XXVI, of the *Scientific American*. He says:

"Let him take an ordinary firkin, put in a false bottom, full of holes, about 1 inch above the real bottom. Then lay a layer of clean straw over the holes. Then put in 8 qts. of good malt, and pour on it 4 gals. of hot water; after that has leached through pour on 2 gals. more of hot water, and after that 1 gal. of cold water; then boil the liquid of the 3 leachings 3 minutes, adding 1 qt. of good molasses and 4 ozs. of good hops. Stir it well; then strain it in a clean tub and, when about milk-warm, add $1\frac{1}{2}$ pts. of good yeast. Stir it well and let it stand until it rises and begins to fall, then skim off the yeast on top and save it for a future Brewing. Bottle in strong bottles and set in a dark place, *and you will have an excellent table-beer*. Lessen the quantity of malt if you want a weaker Beer. This Beer has been highly recommended by physicians for invalids."

It strikes me, if to "lessen the quantity of malt" if you want a weaker Beer," that "you" might increase the malt "if you want" a stronger Beer, with the same success.

7. Brewer's Yeast—Substitute For.—Coarsely ground malt, 2 lbs.; brown sugar, 1 lb.; yeast, $\frac{1}{2}$ pt.; water, 1 gal.

Take half of the water and bring to a boil; then pour it upon half of the malt meal, and stir well. Let it stand 3 hours, strain off and add the sugar, stirring it until the sugar is all dissolved; then put into a stout 2 gal. jug, cover over and let stand where it will keep warm for 12, or 15 hours, at which time, scald and stir the balance of the malt

meal with the other half of the water, and strain off as at first, and add to that in the jug, together with the yeast, remembering, however, that when the yeast is added the mixture must not be above 75° Fah. Shake well and let the jug stand open 2 days; then cork for use, and keep cool. The reason of using a large jug, is to avoid loss by its fermenting over. This will be found very satisfactory.

1. BRICKLAYING—Proverbial, but Correct Method.—In ancient times, before books were known, information was spread among the people by pithy sayings, or Proverbs, and often in rhymes. The following were in use in England, in the "middle ages," on the subject of Bricklaying, and except the first one, they will be found to contain as sound sense for *to-day*, as for "the olden time:"

1. "Consult the stars and rule the planets well,
Before you build a house, or sink a well."
2. "A castle wall, to be stout,
Must be full of mortar, and grout."
3. "Bricks are never well set,
Unless they are, first, well wet."
4. "If you would make a wall stand,
Use good lime and clean sand."

Walls are very liable to crack, unless, as it is now called, the joints are well "slushed," i. e., are well filled with mortar; and no mortar can be made fit for use with sand having a mixture of loam, or other dirt in it.

1. BUTTER MAKING—Keeping and Preparing for Market, Establishing Butter Factories, etc.—"In order to make good Butter, that will keep, it is absolutely necessary to have good, sweet pasturage, with an abundance of the best grasses, and a plentiful supply of fresh running water. And the pasture should have sufficient shade trees to accommodate all the cows in hot weather. The cows should not be those that give the greatest *flow* of milk, but the *richest*; yielding a large supply of orange-colored cream, and they should be salted, at least twice each week, which will keep them in a healthy and thriving condition, ensuring the largest profit. They should never be driven fast, to or from the pasture, and never worried by boys, or dogs, which tends to heat the milk and cause delay in the process of churning, that some persons lay to witchcraft—the witch is over-heating the cow, milk, or cream, etc.

"Always be regular in the time of milking, and have the same men milk the same cows, as far as possible, and to milk them as quickly and as cleanly as possible, as the last is the richest in cream. A clean, cool, airy and light room, the more light the better, avoiding the sun, is the most suitable place to set the milk; and racks are better than shelves, as the air can circulate freely around the pans, cooling the milk more quickly and evenly. A house cellar is getting to be considered a very poor place to set milk; and the milk nor cream should ever be placed on the floor, or bottom, impure gasses occupy that portion of a cellar, and are absorbed into the milk and cream giving them a bitter taste, and consequently a poor Butter.

"Milk should never be disturbed after setting away until ready for skimming; and this should be done as soon as possible after the cream has risen, and always before the milk has curdled; and it is believed that more is lost than gained by letting it set over 24 hours.

Keep the cream in stone jars, in a cool place in Summer, and in a moderately warm place in Winter, and sprinkle a little salt on the bottom of the jar; and always stir the cream from the bottom every time additional cream is skimmed in; and, further, never churn in less than 12 hours after the last skimming, and as soon thereafter as possible.

"The Butter should be worked in cold water and changed two or three times, or until there is no coloring of milk about the water; then press and work out all the water from among the Butter, and salt with only $\frac{1}{2}$ oz. of the best dairy salt to 1 lb. of the Butter; and the salt must be worked evenly through the whole mass."

Mr. A. D. Burt, who has taken several premiums in the New York State Fairs on his Butter, from whom the above has been condensed, not leaving out anything, however, that is at all essential, as reported through the *New York Rural*, says further, in regard to salting Butter: "I differ much with many of our Butter-makers in the quantity of salt, but I have taken the first premium at our County Fair, in the Fall, on *June-made Butter that was salted with half an ounce only, to each pound*, and packed immediately, without a second working, and that Butter, when 13 months old, was just as sweet as when packed."

Always pack your Butter directly after the first working, as it tends to make it streaked to work it the second time; for, when cold and hard it is difficult to work it uniformly. For home use it may be packed in jars; but, for the market, in the best oak firkins, which must be first soaked in cold water, then scalded and steamed by pouring boiling water into them, and covering for 20 to 30 minutes to keep the steam in. Then pour off and rub the firkin thoroughly with salt or soda, wiping out the surplus, and give it a slight rinse, and when cool, it is ready to receive the Butter. And when the firkin, or jar, is full, cover with good sweet brine, to keep out the air, and it is ready for the market, or for keeping.

2. Butter to Preserve—Two Months even Without Salting, and to Prepare for Market.—A patent was taken out in London for the following method of preserving Butter:

The Butter is first well beaten, in the usual manner, after churning; then placed between linen cloths and submitted to severe pressure, for removing whey and water. It is now completely enveloped, or covered with *clean white paper*, which has been coated, *on both sides*, with a preparation of the white of eggs, in which 15 grs. of salt is used, for each egg. This prepared paper is first dried; then, when used, is to be heated before a fire, or with a hot iron (fire is undoubtedly the best), just before wrapping it around the Butter. In this way Butter may be kept *perfectly sweet, without salt, for two months, if placed in a cool cellar.*

To the above, the *Scientific American* makes the following remarks, with which I fully agree:

"The submitting of Butter to pressure, as described, is a *good plan*, and one which we recommend to *all our farmers*. They can easily practice it with a small cheese-press."

Of course, this patent is all free in the United States, and I would suggest, in connection with this Receipt, that if farmers, or dairymen, who make considerable Butter, will adopt this plan, with the addition of salting properly, before the pressing is done; then wrapping the rolls in the cloth, prepared as above; then packing in barrels or boxes,

for shipment to the cities, they would be able to get 10 to 20 cents more on the pound, than is obtained for half the Butter that is sold; and let me also say, that most of the Butter made and sold has entirely too much salt in it. For salting Butter take the purest fine salt you can get, 1 lb. with fine powdered sugar, 1 oz. for 16 lbs. of Butter, intimately mixing the sugar and salt, and also the salt into the Butter, so there is no lumps of salt, nor any Butter that has not got its proper portions of salt; and if this Receipt alone does not many times pay the expense of *this Book* to those who use it, I shall be most happy in making it good to them. Let the grocer who sells it, put up his sign, Dairyman —'s Butter, putting a good price upon it, and, then let no falling off in care, ever occur, and a name will be established that will cause most dairymen to soon increase the number of his cows.

Some of the Philadelphians have been considerably celebrated for the excellence of their Butter; and notwithstanding they differ a little as to the time milk should set, etc., before being skimmed; yet, I think as the *Practical Farmer* has taken the pains to investigate and report their plan, it may be well to give it, as it contains some additional items of a practical character, on Butting-making. The editor says:

"He finds that with the *model dairyman*, *Butter-making is a matter of business, and all the minutie* (smallest things) *receive his personal attention*. The quality appears to depend on a number of very important, though minute processes. Butter made from sweet cream will not keep well, and until the milk sours, all the cream can not be obtained, while, if left longer, rancidity (a strong, sour scent, as of old oil) ensues. A small quantity of sour milk is, therefore, put into each pan to hasten this process, unless the weather is such that the souring of the milk takes place within the 36 hours, which is considered the proper time for the milk to stand before being skimmed. The skimming must be done at exactly the right time. The temperature, 62°, is regulated by a thermometer. The cream vessels are kept in water at a low temperature, and regularly, twice a day, are stirred thoroughly with a wooden spatula. At churning time these cream pots are set into a boiler of hot water, and stirred rapidly, with a stick, till the temperature reaches 60°, when they are immediately emptied into the churn. See COOLING, OR WARMING CREAM, below. When the Butter begins to break, a quantity of cold water is poured in, which tends to harden it and cause a more thorough separation of the buttermilk. This is then drawn off and more water thrown in, to wash out any still remaining. After working and seasoning, the Butter is laid in water, on a clean cloth for a couple of hours, when it is worked over again, and finally prepared for market."

The following item from the *Country Gentleman*, not only corroborates what has gone before, but also introduces some new thoughts in avoiding odors, which, I think, are of sufficient importance to warrant its insertion. It says:

3. Good Butter.—First. For making good butter, the first thing is to have good sweet pasture, free from weeds or any growth that will give a bad taste to the milk. Good upland grass is better than coarse grass grown on wet places. Some dairymen think that limed is better than unlimed land, but this is a matter of minor importance. Others regard the practice of sowing plaster in Spring, and repeating it early in Autumn, as tending to sweeten grass.

Second. Good, well selected cows are the next requisite.

Third. Perfect cleanliness, from beginning to end, is indispensable—the most so, perhaps, of any one thing. No dirt or dust must drop into the milk, for which reason the animals should have a clean place to lie on, and never be allowed to stand in mud or manure; vessels all thoroughly washed—scalded whenever necessary to preserve perfect sweetness—including pails, pans, pots, churns, workers and tubs or firkins. They must first be washed with *cold* water; for if hot water is used first, it will curdle the milk in the cracks or corners, and prevent its washing out.

Fourth. A perfectly pure air is of great importance. Bad odors will taint Butter. The dairy house should, therefore, be far away from manure yards and everything else of the kind. Keep tobacco smoke off the premises.

Fifth. Let the Butter be well worked, so as to press out all the buttermilk. It is impossible to have a good article if this is not done. Perhaps this is the most common cause of failure. If much milk is left in, it soon ferments and makes rancid and worthless Butter.

Sixth. In laying down for Winter, use new firkins—never use them a second time; and pots or jars must not be used, if they have ever had bad Butter in them, or pickles or anything else that will taint them—the taint can never be wholly removed.

Seventh. The best dairy salt is important. Butter in hot weather must be covered and excluded from the air with saturated brine (brine as strong as salt will make it).

4. Cooling, or Warming Cream in Butter Making.—As it has been found that churning can be done quicker and easier, if the cream or milk is at about 62° or 63° Fah., a very easy plan to accomplish this is to have a tin tube about 3 or 4 inches in diameter, and 18 inches to 2 ft. in length, with a handle at the upper, or open end; then in Summer, to cool it, fill with *ice* and pass it around in the cream until the right degree is obtained; and in Winter, fill with *hot* water, for the same purpose. The plan of passing hot, or cold water into the churn for this purpose, is not good. I think this plan was first reported through the *Hearth and Home*.

5. "Establishing a Butter Factory."—D. E. Brower, of Bucks County, Pa., writes: 'The Farmers' Club of Doylestown, have requested me to report on the propriety of establishing a Butter Factory. We want *facts* bearing on the question.' Edward Norton, Esq., of Farmington, Conn.,—who has recently given considerable attention to the subject—to whom we referred the matter, has favored us with the following:

"The facts in regard to Butter Factories are simply as follows: There are now from 1,000 to 1,200 Butter and Cheese Factories in New York State, of which at least half make some Butter, and several hundred make *only* Butter and skim-milk Cheese. The profit depends on:

First. The price received for the Butter and Cheese.

Second. The kind of skilled labor employed, and the conveniences for business.

Third. The amount of milk furnished to the Factory, or, in other words, the proportion of the expenses to the receipts from the sale of Butter.

Fourth. The Butter will always bring from 5 to 10 cents a lb. more than the *average* of dairy Butter, on account of its uniformity,

being made daily, and whole firkins packed at once. If the best Butter-makers are employed, it will bring from 10 to 20 cents above average, and steadily hold its price.

Fifth. So much skimmed Cheese is now made that the price varies from 4 to 12 cents per lb., according to quality. Hence,

Sixth. A good Cheese-maker is necessary. For the Butter should pay for the milk, and the Cheese pay all expenses. But in this, as all other things, skilled labor is costly, for a good workman is always in demand. Wages now vary from \$500 to \$1,000 a season.

"The Factory will cost from \$2,000 to \$4,000. The simplest way of finding a plan is to visit Orange, or Cortland County, New York, and examine the Factories there. The prices of the requisite machinery may be learned of Gardner B. Weeks, Syracuse, New York, Secretary of the American Dairymen's Association, who will send a price-list.

"One vital necessity is a spring of cold water, sufficient to fill a two-inch pipe at all seasons.

"To meet the necessary expenses, the milk of at least 300 cows is needed. Otherwise, even with good prices, the dividends for milk will be too small to satisfy the producers.

For example, if 100,000 quarts of milk earn 4 cents a quart,	\$4,000
Deduct expenses,	1,500

The producer receives 2½ cents a quart,	\$2,500
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300,000 quarts at 4 cents a quart,	12,000
Expenses, say,	2,000

The producer receives 3½ cents a quart,	\$10,000
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"And for every additional 100 cows, the expense of one laborer is sufficient. In past years some Factories have netted 4 cents a qt. to their patrons. Few probably did as well during the season of 1870. In a new section the best mode of beginning is to organize a stock company, the capital being taken by the farmers who send the milk (the interest counting among the expenses). A Committee of Management is then appointed, who choose the Superintendent, make sales, etc."—*Hearth and Home*.

There is no doubt but what the idea of establishing Butter Factories is just as practical as that of CHEESE FACTORIES, which see.

6. Packing Butter—New and Successful Method.—Some Michigan dairyman not long since reported his method of Packing Butter. I am not positive as to what paper he first published it in, nor of his name. The facts come to me through the *Hearth and Home*; and, I think, it contains not only Common-Sense, but sound philosophy, and will appear so reasonable to most Butter-makers that they will adopt the plan. It is as follows:

He has oaken tubs, with heads at each end. They are 14 inches in diameter at top, 9 inches at the bottom, and 16 inches high. In packing, a cambric bag is made to fit the tub. The Butter is packed in the tub as it stands on the small end—the sack being long enough to extend above the edges of the tub—and is pressed down firmly until within an inch and a half of the top, when a circular cloth is laid over it, the edges of the sack turned down over that, and a layer of fine salt placed on it. The head is now put in its place, the tub turned up, and the Butter in the sack, of course, falling down to the bottom, leaves a space all around it which is filled with brine poured through

a hole in the small end. When full the hole is corked up tight. The Butter floats in the brine and is effectually preserved from the air, and will keep for an almost indefinite period.

7. Butter Preserved Sweet for Seventeen Years.—It is reported that a crock of Butter has been taken from a steamboat wreck which had lain under water and sand for 17 years; and that it was found good and sweet, as the day it was made.

The suggestion would be to sink Butter in a cistern, well, or spring, to use when needed.

BURNING OUT STUMPS.—In the North-west they have adopted a new method of getting rid of Stumps. In the Fall they bore 1 inch, or $1\frac{1}{2}$ inch hole, according to its size, into the middle of the Stump, 18 inches deep, and put into it from 1 oz. to $1\frac{1}{2}$ ozs. of saltpeter, fill the hole with water and plug it up. In the Spring they take out the plug, and put into the hole from $\frac{1}{2}$ a gill to 1 gill of kerosene, and ignite it. It will go on Burning without any blaze, until the Stump, "root and branch" are consumed.

I have not had a Winter to test this since seeing the announcement, but it can be easily and cheaply tested by those who have the Stumps, which are not too old, to try it upon.

BROWNING IRON AND STEEL—Without Heat.—The *Moniteur des Interets Materiels* publishes the following Receipt for giving a Brown color to the surface of polished Iron or Steel:

Mix 4 parts of water by weight; 1 part of gallic acid; 2 parts of chloride of iron; 2 parts of chloride of antimony. The chloride of antimony (butter of antimony) should contain the least possible acid in excess.

Dip a sponge in the mixture and rub the metal to be colored. By repeating the process the color can be deepened at will. Wash thoroughly with water, and when the surface is dry, cover it with a light coating of boiled linseed oil. See GUN BARRELS, TO BROWN.

1. CANCER.—Cancer is characterized, or known as a hardened lump, or knotty tumor, and the treatment of Cancer is about as knotty a subject for the profession, as the Cancer itself; and unless the treatment begins in the early stages of the disease there is but little hopes of cure, especially when the large glands, like the female breast are attacked; and when attacking the womb or other internal organs, there is but little hopes of a successful termination.

There is also an encephaloid, or medullary (brain-like, or marrow-like) Cancer, a case of which was brought before the class, at the Eclectic Medical Institute, of which I was a member in the Winter of '57-8. The patient was a boy about 10 years old, and the Cancer began upon the point of the shoulder, but had grown to the height of the top of the head, crowding it over considerably, and extended down the arm to near the elbow; and as well as I can now remember, I should think if it had been separated from the patient would have weighed 25 lbs. It had an open sore, not large, but red and irritable, bleeding upon the slightest touch of any thing rough, or that would press much upon it. Nothing was being done for it, only to keep the general constitution in the best possible condition. If I remember correctly it had been growing some 3 or 4 years. I hope never to see another.

Cause.—Some believe that Cancer is caused by a blow; but, I think the majority of our most learned physicians, and writers, believe it to arise from constitutional changes, and the deposit of a

Cancerous matter, similar to the deposit of tubercular matter in the lungs, constituting consumption. It occurs more often with women, than men, and more frequently with the first, about the period known as the "change of life," more persons having the disease commence between 40 and 50 years of age, than at any other period of life; very few cases are reported to have commenced before 20, and there a few also reported to have begun after 80. When situated in the breast, there is, sometimes, gnarled or knotty branches that seem to spread out from the hard body of the tumor, which has given the name of Cancer (crab) from what is now more generally called "roots," like the legs of a crab.

Symptoms.—Cancer of the breast generally begins in the form of a cake, or hardening tumor, being *much harder* than the ordinary inflamed, or ulcerating breast, occurring at child-birth, and when pain attends them, or begins, it will be of a sharp and lancinating character. When it becomes an open sore, the edges will be very irregular, also the surface will manifest the same irregularity, prominences, and depressions, attended quite often with hemorrhage, or bleeding, and with a burning and sharp pain, from time to time. The edge of the ulcer may turn out or in; and the discharge will be of a very offensive and excoriating, or corrosive nature. When it occurs on the face or other external surface, it is most generally rough, scaly, and, after a little, will itch considerably, and finally become painful, but may not make trouble, or cause much pain for years. But Cancer of the breast, or womb, stomach, etc., generally comes to a more speedy termination, and especially so if these are excised (cut out).

Treatment.—Dr. Allen, of Middlebury, Vt., reports the case of a lady about 100 years old, who died from other disease, who had had an open Cancer of the breast for over 30 years; but it is not common, even with those of a less age—a very few years, generally closes the scene. It is one of the most loathesome and destructive diseases that we have; and one, with which the least satisfactory results are obtained; and especially so of those attacking any of the internal organs, and frequently so with the breast, as the axilla (arm-pit) is often complicated, by its glands, with the disease, the patient being literally destroyed by a slow and corroding, or eating poison, with but little amelioration from medicines. As to extirpation, with the knife, the almost universal testimony is against it, so far as any hope is concerned of removing the entire disease. Dr. Monro, of England, says, that of "about 60 cases" which he was present, at the cutting out, only *four* remained free of the disease at the end of *two* years, and he observes that in the cases of relapse, the disease was always more violent, and made quicker progress, than in those who allowed no operation to be performed. The reason why the whole disease can not be readily removed is, that Cancer does not have any investing (covering) membrane, like other tumors, but it, as before remarked, spreads out its legs into the surrounding tissues, and, consequently, the surrounding tissues also run into the Cancer, leaving no dividing line; and, consequently, when they do cut them out, they often cut off hard fibrous bands, running into other parts, which form new starting points for the disease—they can not, generally, be entirely dissected out, if the disease has made any considerable progress. These being the facts in the case, what can be *done* to alleviate or cure Cancer? I have assisted in curing 2 cases only, but it is

all that have come under my immediate notice. One was upon the forehead, and the other upon the face. They were of the *rough*, or *scaly* kind referred to above. The plan pursued, and the medicine used was as follows:

2. Dr. Hale's Cancer Remedy.—Arsenic, rochelle salts, white vitriol, and sulphur, of each, equal parts, say, 1 dr.

Rub all down to a fine powder and mix to a salve with yolk of eggs, to the consistence of cake-batter. Place it in a clean earthen dish, and bake it, until dry and hard, like a well-baked cake. When cold, pulverize it, and put in a vial and keep corked for use. In applying take out enough, when made into salve again with yolk of egg, to spread a plaster the size, or a little *less* than the size of the Cancer, for it will have its effect to the edge, causing a separation from the healthy flesh, and this crack will go down to the depth of the Cancer, as it kills it. And when killed, apply an elm poultice until the mass comes out. And if at any time the inflammation caused by the Cancer plaster is too great to be borne, apply the elm poultice until the inflammation is reduced, then apply the plaster again, giving a mild cathartic also, if the poultice has to be applied to reduce inflammation. The salve, or plaster must be kept on until you are satisfied that the Cancer is all destroyed, or until you can discover that some *root* has penetrated in among the bones, past reach, when the case becomes hopeless. In connection with, or rather before is the correct plan, the application of the Cancer salve, let a cathartic be given, and an alterative taken, beginning a week or two before if it can be done, and follow up for several weeks, to correct the general system.

In the 2 cases referred to, there was no difficulty in accomplishing the undertaking, and one of the gentlemen is still living near this city, and still well—the cure was done some 7 or 8 years since; the other came from a distance, and I have never heard but what that was equally satisfactory. Dr. Hale, who had charge of the cases, was an old physician, of some 40 years' practice, before he died, and while he practiced in this city, he was pleased to call me his especial friend. I assisted him in difficult cases to the best of my ability, and he gave me all of his prized prescriptions, to use during his life time, and the privilege to publish, after his death. He died some 3 or 4 years ago, and I have now for the first time, made his receipt for Cancer known to the public. I am aware that there is a great prejudice against the use of arsenic in Cancer, by many physicians, as well as others; but with that prejudice I have nothing to do—the Cancer will probably kill in a few years, at most, according to the violence of the case, very soon, or a little farther off—if any one can do better, I should be very glad—each one must judge for themselves. I shall give the opinions of others, as well as my own, so that all may judge understandingly. But for my own part I should not hesitate to use a piece of "old nick himself," for a plaster, if I could catch him, and could be satisfied that there was sufficient *virtue* left in him to do the least bit of good to the Cancer sufferer. But what ought to be done in every instance is, on the *very first* appearance of any swelling of any part, or of the appearance of any scale or scabby spot upon the skin, to begin the application, immediately, of a liniment, or discutient salve or ointment to it; and at the same time to take a cathartic and other means, as an *alterative tonic*, to improve the general

health, then, if it is Cancer, it will be scattered and eliminated, (carried) out of the system, at least for some considerable time; and should it again appear, repeat the course, and, if need be, continue it longer, and thus save much suffering and danger of being compelled to resort to severer measures. This plan of immediate action in the commencement of the disease is fully sustained by Dr. Beach, of New York, who was one of the leading men in the opposition to the old plan of *bleeding, blistering, and mercury* giving, and who attained to an eminent reputation in the reformed practice. He says:

"When any gland has become enlarged, hardened, and shows a tendency to be Cancerous, we should, from the *earliest period*, use our utmost exertions to discuss (scatter), or at least to prevent its farther enlargement. Applications of a *discutient* (scattering), and *sedative* (allaying irritability and lessening pain), nature should be used *without delay*; and pressure, as lacing, etc., should be guarded against; the bowels kept open with *purgatives*, from time to time; cooling diet, and abstinence from all spirituous liquors, and other stimulants of every kind.

"When the disease is in a state of tumor, let the following discutient ointment be applied:

3. Beach's Cancer Discutient.—"Bark of the root of bitter-sweet (*solanum dulcamara*), stramonium leaves (*datura stramonium*), deadly night-shade (*atropa belladonna*), yellow-dock root (*rumex crispus*), pokeberry, or root (*phytolacca decandra*), equal parts of each.

"Bruise the articles, cover with spirits, and simmer a few hours; then add fresh butter (unsalted butter), sufficient when melted to cover the whole; simmer moderately over embers until the strength is extracted (until the leaves and roots are crisp); then strain and cover in an earthen jar. Let the tumor be well bathed with this ointment 3 or 4 times a day, *before the fire*, or any *heated substance* may be held a little distance from the part during the act of bathing. After the tumor has been annointed, let a plaster be applied. Inspissated (dried, or thick) juice of pokeberry is good; also cicuta, and extract of hen-bane.

"Every-other-night, on going to bed, if there is any pain in the tumor, steam with the following decoction: Take *boneset, wormwood, hoarhound, and hops*; boil 2 or 3 hours in equal parts of *vinegar and water*; throw the decoction and the herbs into a suitable vessel, to which add a small quantity of *soft soap*; place the vessel underneath the tumor, or parts affected, and let the steam be confined by a blanket. Continue the application for 15 or 20 minutes each time, and if it produces no *perepiration*, throw in a *heated iron or brick*. If the tumor be in the breast, the articles may be put into a large bowl, and placed directly under it. When the axilla (arm-pit) and arm are swelled, let the steam be extended to these parts also. (My own judgment would be to apply the herbs, not too wet, as a poultice, especially if the tumor was in a place where the steam could not be got very close to the parts, and even then, I believe the application would be the better way). He continues:

"If the patient should suffer the most excruciating pain, this treatment will mitigate (alleviate, or lessen) it, by eliminating (carrying out) the Cancerous humors, removing the tension, swelling, and inflammation connected with it, and rendering the parts more soft

and natural. During the use of these medicines the patient may take the *scrofulous sirup*.†

Also give, in connection with this sirup, a pill made of the extract of *cicuta*, containing 1 to 2 grs., twice daily; and, if no nausea follows its use, to be gradually increased (I would say, not above 3 grs.). The following may be tried: Take *yellow-dock root*, 1 oz.; common salt, 1 oz.; and 1 pt. of best French brandy (substitute, now, for that, alcohol of 76 per cent proof); keep the parts wet with it, instead of the plaster. This is very discutient. A purgative should be given once, or twice a week.

"I wish," he says, "to impress on the mind of the person afflicted with a Cancer of the breast, the importance and necessity of avoiding the use of the *knife* and any *corrosive plaster*, especially *before* it ulcerates, as both are sure to exasperate (make worse) the complaint, which otherwise, if treated mildly, or even left to nature, might progress very slowly; The knife and the plaster," he continues, "I have found, by *extensive* experience and observation, to exasperate the disease, and hasten it on to a speedy and fatal termination, to say nothing of the sufferings which they must occasion. *If you do it, remember, it is at your peril*; the opinion of quacks to the contrary, notwithstanding."

Of course chloroform has since come in to relieve the pain of cutting out, so that now a person can feel *no pain*, in cutting out, against a painful and lingering suffering, if they decide upon an *eating*, or *destroying* plaster. I saw an account of an English physician, being 32 days in thus destroying one, while as many minutes, or an hour at most, with *chloroform* and the *knife*, would have taken it out; then a day or two with a plaster would kill any remaining roots that would have been reached, provided the plaster had been used from the first. When all these things are known, then the persons afflicted, or their friends, must decide for themselves what plan to pursue.

Dr. Hale used the plaster given under his name No. 2, about 40 years, curing hundreds of patients; but, as a general thing, they were of that class beginning in the skin—the scaly kind—and not of very long standing. He gave me the history of a case upon the abdomen of a lady, where she and her friends were very fearful that it would eat through, but he assured them there was no danger, if there was, he would stop the application; and the result was entirely satisfactory.

But in case the *discutient* and *corrective*, or constitutional measures above recommended should fail, which they sometimes will; to prevent a continuance of the disease, and finally ulceration takes place; and the patient does not see fit to have the *knife*, nor *plaster* used, means must be made use of to promote a discharge, and to keep down excessive inflammation, then let them take *cicuta leaves*, if they can be got, if not *gimpson leaves* and simmer them in soft water, until quite soft, then thicken this mass with ground *slippery elm bark*, for a poultice, once or twice daily, and continue to use such *alterative* and *tonic* medicines as shall aid the constitution in resisting the disease.

Dr. Beach claims that if any caustic plaster is used, at all, that it should be made by boiling the lye made from hichory ashes, to the

† NOTE.—Beach's scrofulous sirup was made from yellow-dock root, and bark of the bitter-sweet root, of each, 2 lbs. to 6 qts. of sirup, made in the usual way. I prefer our alterative sirup.

consistence of molasses or honey; to be spread, in a small quantity, upon a piece of leather and apply to the part affected, and let it remain until the pain produced by it subsides, or as long as the patient can bear it; then apply a poultice, daily. The effect is to cause a discharge, by sloughing off of the ulcer, diminishing its surface. He claims that instead of increasing the inflammation like other caustic plasters, it absolutely diminishes it; but I have had no experience with it, yet, I find generally that his instructions can be followed with great hopes of success.

In case of great fetor from an ulcer from Cancer, a yeast poultice, may be applied, or a weak solution of chloride of lime, or a weak solution of carbolic acid; and in cases of the womb, these weak solutions may be injected for the same purpose.

There are many other corrosive combinations which have obtained considerable reputation for curing Cancer, that is, to eat them out, some of them painful, some claim to be "painless." Prof. King, of Cincinnati, O., in his celebrated work on "Chronic Diseases," which ought to be in the hands of every physician, (what he has not said in this large work, over 1600 pages, it is not worth the while for any one, at the present time to say, although the price, \$15, will keep it out of the hands of families), gives several of these formula, or Receipts, but he does not "recommend them, nor vouch for their efficiency," yet, I will condense, as much as I can, 2 or 3 of them that persons may have a greater range of prescriptions, from which to select, should they deem it best to try any one, for their relief.

4. **Brass Filings.**—Apply by means of a ring of soft leather stuck to the surface with white turpentine—the ring being a little longer than the Cancer; then fill inside the ring with the filings, and stick a piece of soft leather over the whole, with more of the turpentine—the hole is to be just the size of the ulcer. Every day or two, cleanse the ulcer with castile soap-suds, dry it and repeat the process, as many times as needed, which "eats out" the Cancer with *little or no pain*. The Prof. speaks of 20 cases, in which there appeared to be permanent cures, by this plan.

5. **Painless Cure for Cancer.**—"Take of solution of persulphate of iron, and aqua ammonia, of each, 4 fl. ozs.; soft water, $\frac{1}{2}$ pt.; mix and allow it to stand until the precipitate is all settled; then filter through strong muslin, and press it a little to remove as much water as possible; and before the precipitate (the powder that is left on the cloth) has dried, add to it fresh lard to form an ointment. When required for use, to 4 ozs. of this ointment add from 10 to 20 grs. of the finely powdered arsenic, according to the size of the Cancer, or the pain, etc., it produces, and rub thoroughly together. A portion of this ointment is to be applied daily, until the whole malignant growth is reduced to a slough, and until a needle can be passed into it in various parts, as far as to the healthy tissue, without causing pain or tenderness. The slough may be removed by slippery elm poultices. Heal the simple ulcer left by frequently dressing it with solution of tannic acid, and elm poultice containing some of the tannic acid, which heals without granulation, and without leaving a cicatrix (scar); being careful at each dressing to remove any 'roots' that may be seen on the surface of the ulcer. If any malignancy (disposition to new Cancer) is observed at any part, the ointment must be re-applied over it and treated as before. Should an erysipelatous redness occur around the

Cancer, or should much pain be produced while using the ointment, the quantity of arsenic must be reduced. If the Cancer is not open, the skin may be removed with a cantharidal collodion (collodion having cantharides in it) before applying the ointment." This, Prof. King says, "is stated to have effected numerous cures of Cancer *without pain*, and 'taking it out by the roots,' and I know," he continues, "of several in which apparently thorough cures were effected; but in large, extensive, or longstanding Cancerous ulcerations, it generally fails. A cure by this method requires from 2 to 6 months, as the process is a gradual one" (and, I should therefore judge, it being gradual and painless if rightly managed, it would be oftener followed). "Some persons who have built up a considerable reputation for curing Cancers, employ, in conjunction with this treatment, a solution of potassio-tartrate of iron, or Fowler's solution of arsenic, internally."

This is 'undoubtedly the preparation of which so much has been said, as being practiced in the larger cities, as the "painless Cancer cure."

6. Red Oxide of iron, animal charcoal, of each, 1 oz.; digitalis, and sulphur, of each, $\frac{1}{2}$ oz.; Canada balsam sufficient to form a thin plaster. Spread a small quantity of this upon a linen cloth; apply it over the whole surface of the ulcer, and cover it with a common tar plaster. Repeat daily, until the Cancer is destroyed—no pain follows its use."

7. Recent maragold flowers and leaves, recent red clover flowers and leaves, blood root, and digitalis, of each in coarse powder, $\frac{1}{2}$ oz.; carbolic acid, 4 ozs.; glycerine, 8 ozs.; mix and allow to stand 14 days. Apply some of this, on lint, to the Cancer every day. Said to be also useful in *lupus* (an eating Cancer of the skin, more often of the face, from its eating like a wolf) and other cutaneous (skin) diseases."

8. Dr. Fell's Cancer Remedy.—Dr. Fell is an American gentleman who went to London, if I am correctly informed, and obtained the privilege of treating some cases of Cancer in the London Cancer Hospital, which he accomplished with very considerable success, with the following remedy:

Chloride of zinc, 3 ozs.; finely-powdered blood root, 1 oz.; bayberry wax, $\frac{1}{2}$ oz.; ex. of conium, and watery ex. of opium, of each, 3 drs. Mix together and form into an ointment (we are not informed what he uses with the mixture. Lard is generally used to form an ointment, but white of egg, or gum water, we think, might be used). Remove the skin with the cantharidal collodion; and apply the ointment to the raw tumor; when it forms an eschar (a dry slough, or dead tumor, lump), cut lines, gashes, or furrows, in this dead mass about *half an inch apart*, being careful not to injure the healthy tissue, and then continue the application of the plaster. In connection with this he alternates (one following the other), every 12 hours, with the following:

Glycerine, $\frac{1}{2}$ oz.; spermaceti ointment, 4 ozs.; iodide of lead, 2 scrus. Mix, and form an ointment. Apply this over the ulcer every alternate 12 hours. And in conjunction (associated) with these salves, he gives internally, the following pill:

Pulverized blood-root, 2 scrus.; ex. of cicuta, 4 scrus.; iodide of arsenic, 4 grs. Mix, and make into 80 pills.

Dose.—One pill 3 times daily, after meals.

9. Prof. King informs us also, that carbolic acid has recently

been found to destroy Cancer cells (Cancer matter) under the microscope; and when applied to Cancer, that it is said to relieve pain *very much*, destroy the fetor, and to bring about a healthy action. (This is just what I should expect, from the very many uses to which it has already been applied). It may be used with citric, or acetic acids, or it may be applied to Cancer, or other malignant growths, as follows:

Carbolic acid 45 drops; alcohol, $\frac{1}{2}$ oz.; soft water, 1 pt.;—or carbolic acid, 1 part; pyroligneous acid of 8°, 4 parts; soft water, 15 parts. Mix:

I have not given all of the notes of Prof. K. on the subject of Cancer, only such as I have deemed applicable for general use. He classes his notes on this subject in the following words:

"Perchloride of iron, used locally" (upon the Cancer) "and internally, has been found *very effectual* in some cases of malignant growths."

In closing my remarks upon this subject, I beg leave to again call attention to the very great importance of *immediate* attention, even to the slightest appearance of tumors, scaly appearances upon the skin, and sore places that may occur, or come on upon any part of the system. Begin to oppose it by the application, 3 or 4 times daily, of any good *liniment*, and if that does not soon relieve, use a *discutient ointment*, *cathartic*, and *alterative tonics*, bathing once or twice a week, all to be done in such a manner as to improve the health and general constitution; for, if "*an ounce of preventive is worth a pound of cure*," in ordinary cases, it is worth *double price* against Caners. See MISCELLANEOUS RECEIPTS for Cancer under C.

1. **CANKER—Thrush, or Sore Mouth.**—Canker is a disease of the mucus membrane of the mouth, which may extend through the whole alimentary canal, and if not attended to with proper treatment in time, often becomes very troublesome.

Cause.—No positive knowledge as to its exact cause; but undoubtedly arises from a failure of the mucus membrane to throw off, or excrete, some of the effete, or waste matter which it usually does, retaining it in the membrane which causes a small ulcer; and it may be and probably, to a certain extent, is caused by a general failure of the skin, kidneys, etc., to perform all of their respective functions (particular work) in carrying off all of the waste, or worn-out matter of the general system.

Symptoms.—The first symptom noticed will be little white ulcers in the mouth, upon the tongue, etc., and finally uneasiness and irritability of the stomach, with more or less burning or heat of the same, according to the severity of the case. The ulcer will be very sore, and very painful if irritated by a bit of hard or rough food. The skin will become dry, countenance pale, and cold surface, and extremities; which to any one who will reflect, sufficiently indicates (points out) the:

Treatment.—Give a gentle *cathartic*, bathe, or sponge the surface *once or twice* a week, give some of the *sweating* medicines which shall also excite the skin to action; and use a *gargle* of *sage tea*, *gold-thread tea*, *hyssop*, *sumac berries*, etc., all in combination, or any one or two of them, as can be got, with a little pulverized *alum* or *borax*, and sweeten with honey; and if the sores get pretty bad, *burn* some *alum*, then pulverize it and touch the sores with a bit of it upon a rag, or

by means of a small brush, or pencil such as the girls use to paint their water colors with. Continue the general constitutional treatment for a week or two, or longer as may be needed, giving light nourishing diet, as bread and milk, thickened milk, bean soup, etc., and there will be very seldom a case which this plan does not fully relieve; but occasionally there will be one. I remember two of my own brothers, while I was still young, who had the difficulty continue until the stomach and bowels were all implicated; yet, I think, so far as I can now remember, that but little constitutional treatment was given them. They were cured, however, by taking a bit of *tobacco leaf* from the old "twist-plug," about 2 inches square, or thereabout, and putting it into a saucer of water, then gargling with it, and finally swallowing a very small quantity of it, 2 or 3 times daily. It cured the *Canker*, but it gave them a *hanker*, for tobacco.

2. Dr. Beach informs us that during the revolutionary war, the following gargle cured all cases of *Canker* and *putrid sore mouth*, which was then very prevalent, and previously carried off many persons:

White oak, and *white elm* (not slippery elm) barks, bark of the high blackberry root, and of the root of sumach, nanny-berry bark, and *santicle*, or black snake-root (black cohosh is sometimes called black snake-root; but that is not what is meant, it is the [*sanicula Marilandica*] a small black root, growing in low wood-land thickets), of each equal parts, bruise and boil, to make a strong tea or decoction; then add a piece of alum, and sweeten with molasses (now-a-days we would say honey), bottle for use; gargle and wash the mouth with it (and I shall say, swallow a *little*, each time). The complaint may grow a little worse at first; but it cured all. Dr. B. adds, it must be excellent for all kinds of ulcers.

A tea of golden seal, geranium, and witch-hazel bark, together or singly, with a little alum, are good as a gargle, and to swallow a little of, if the disease has affected the throat and stomach. Restore the general health, in this case, as in all others, as quick as possible.

1. **CATHARTICS.**—Cathartics are articles which act upon the alimentary (aliment, food) canal, causing an extra amount of mucus, to be poured into the different portions of the intestinal canal, and also stimulate it, thus, to throw off, or evacuate all of the useless part of the food. They are generally divided into 5 orders or classes, in accordance with mildness, or severity of their action. The following are among the more commonly used in their various classes:

2. **Laxatives.**—Manna, cassia, prunes, honey, ripe fruits, olive and almond oils.

3. **Mild and Cooling Cathartics.**—Epsom salts, seidlitz powders, citrate of magnesia, sulphur, cream of tartar, magnesia, castor-oil, etc.

4. **Active Cathartics.**—Rhubarb, sena, aloes, butternut, etc.

5. **Cholagogue Cathartics.**—This class, as its name indicates (carrying off bile) work especially upon the liver, increasing the flow of bile; among them, are the mandrake root, and podophyllin made from it; *Culvers physic*, and *leptandrin* made from it. Calomel formerly occupied a position in this class; but it has died a natural death, from old age, and the injuries he has committed upon the human family, as acknowledged by its friends. See CALOMEL GIVEN UP BY ITS FRIENDS.

6. **Violent Cathartics.**—As jalap, gamboge, scammony, croton-

oil, colocynth, elaterium, etc., which cause free watery evacuations, acting with violence unless properly combined with stimulants and aromatics.

For various purposes a combination of some from the various classes makes a better Cathartic than to use them alone, the same is the fact also with combinations of some in the same class.

7. Mild and Alterative Cathartics.—Sulphur, 1 oz.; cream of tartar, 2 ozs. Mix.

DOSE.—One, or 2, to 4 tea-spoonfuls, according to the action desired, or the purposes for which it is taken. As an alterative 1 to 2 tea-spoonfuls, 3 mornings in succession; then skipping 3, and so on, as long as may be needed. As an active but mild Cathartic, 3 or 4 tea-spoonfuls may be taken at once, and repeated the next morning if it does not operate. For a general Cathartic for children, from 2, or 3 years to 10 or 12, and for feeble persons this is very valuable.

8. Neutralizing Cathartic Cordial.—Best rhubarb, and pure carbonate of potassa (salts of tartar), of each, 1 oz.; golden seal, and cinnamon, of each, $\frac{1}{2}$ oz.; pulverized sugar, 1 lb.; best brandy, or 75 per cent alcohol, 1 qt.; oil of peppermint, 20 drops. The rhubarb, golden seal, and cinnamon must be ground, or pulverized, and half the brandy, or alcohol, put upon them, and steep gently in a covered basin, for 4 to 6 hours, making good with soft boiling water for the evaporation (it is not expected to evaporate but little, if covered); then strain and press gently, after which put on the balance of the spirits and steep again for two hours, covered as before, and strain and press again, then steep as before with water to fairly cover the grounds, strain, press and mix the liquids; then add the potassa, sugar, and peppermint oil, having put, however, a spoonful or two of the brandy, or alcohol upon the oil before it was all used. This improvement upon the original diarrhoea Cordial was made by Dr. Hill, of Cincinnati, and furnished by him to Prof. King's American Dispensary.

DOSE.—One table-spoonful, and repeat in 30 minutes, to 1 or 2, or 3 hours, according to the severity of symptoms. It is an exceedingly valuable preparation in *diarrhoea*, *dysentery*, *cholera-morbus*, *cholera-infantum*, in doses of $\frac{1}{2}$ to 1 tea-spoonful and it is also used in obstinate constipation, acidity of the stomach, dyspepsia, piles, and as a laxative regulator in pregnancy. In fact, it is one of the *best regulators* of the digestive organs and alimentary canal when they are *irregular*, that we are possessed of. But, if there are any persons whose peculiar constitutional conditions (as the Doctor would say, *idiosyncrasy*) will not allow them to take spirits, it can be taken in powder.

DOSE.—A tea-spoonful, to be repeated as for the Cordial; but, I do not think its action is as good as in the liquid form.

9. Tonic Cathartic.—Best aloes, best rhubarb, and capsicum, of each, $\frac{1}{2}$ oz.; white snake root (*eupatorium aromaticum*), Virginia snake root (*serpentaria*), valerian root, canella alba bark, rasped quassia, of each, $\frac{1}{2}$ oz.; best rye whisky, 1 qt. All the articles are to be pulverized and put into a bottle with the whisky, and shaken daily for a week, when it will be fit for use.

DOSE.—From 1 to 2 tea-spoonfuls, according to the ease with which Cathartics work on the patient, 3 times daily, just before each meal, until a good Cathartic action has taken place, after which, *once* a day, if that will keep up a daily passage, if not twice daily, or, just sufficient daily, to keep up a daily movement of the bowels. This is

especially valuable in dyspepsia, or difficult digestion; from which those obstinate constipations generally arise, although in many cases the person may not think they are dyspeptic.

Some people make great objections to the use of spirits of any kind, in any way. This is *just as unjust* as it is to uphold it as a common beverage. Good spirits are a diffusible stimulant; and the peculiar arrangement of most of the roots and plants used in medicine do not yield their important virtues to water alone. Alcohol of some kind is *necessary* to extract their virtues, and it is also a great *preservative* against souring, etc., hence, I have no hesitation, although a *good templar*, to use them as a medicine, and if any one uses my prescriptions, just for the sake of the whisky, I should be perfectly willing to pay for all they would drink in their medicinal combination; for I always make them strong in the medicine, so that from a *tea*, to a *table-spoonful* makes a dose, which will never, when so strongly tinctured, excite, even an "old toper's," appetite for liquors. In connection with this Tonic Cathartic in dyspepsia, I also use the AROMATIC Tonic, which see. This Cathartic is as valuable for general purposes, as it is in dyspepsia.

10. Compound Padophylin Pill.—For the Liver.—Padophylin, $\frac{1}{2}$ dr.; ex. of leptandra (Culver's physic), 1 dr.; ex. of hyosciamus, $\frac{1}{2}$ dr.; ex. rhubarb, $\frac{1}{2}$ dr.; cayenne, pulverized, $\frac{1}{2}$ dr. Mix, thoroughly, using a little gum mucilage, as needed, and divide into 60 pills.

Dose.—The dose will be from 1 to 3 pills, at bed time, to be repeated the next night if they have not operated. This pill will be found valuable in all liver difficulties, constipation, etc., and as a general Cathartic. Experience has shown that the article of leptandrin, from the manner of its preparation, does not possess the properties of the root (leptandra), hence, the extract has been substituted in its place. The hyosciamus is gently laxative, allays pain, soothes irritability, and with the cayenne, prevents griping, etc. In chronic constipation, or liver derangement, 1 pill at night, continued until the bowels have become regular, is a very good way to take these pills.

11. Anti-Bilious Pill.—As there are those persons who would prefer a Cathartic after the plan of the old Anti-Bilious Pills, I have thought it best to give one, as follows:

Best aloes, 5 drs.; mandrake root, gamboge, colocynth, and ex. of gentian, of each, 1 dr.; capsicum, 2 drs.; castile soap, $\frac{1}{4}$ dr.; oil of peppermint, 10 drops.

The soap is to be shaved fine and dried, and all of the articles to be finely pulverized and sifted, or else the regular *powdered* articles except the extract and oil, are to be used, now-days kept by druggists, which must all be thoroughly mixed together and made in the usual size—3 gr. pills.

Dose.—From 2 to 6, although there are but few who will require more than 4, and but few less than 3, to operate as a Cathartic. They may be used whenever a general Cathartic is required, by those who prefer them to any other preparation; and by taking a large dose of them, when a very active Cathartic is needed, as in apoplexy, or other head difficulties, a very thorough revulsive (withdrawing) action from the brain.

Let it be remembered, by whoever shall gather mandrake root, that only those plants which bear the fruit—"The May-Apple"—should ever be used, because they are milder, that is, do not *gripe* like the

male, or whole-steam kind. The bearing kind has a forked-stem, the other runs up whole and has a top like an umbrella; the root of this is harsh.

1. **CHOLERA.**—This disease, formerly known as Asiatic Cholera, has become so familiar in this country as to be distinguished by the simple, yet terrible name—*Cholera*. Its first appearance, in its terribly spasmodic and fatal character, was India, in 1817,—the year of my birth. There had, however, been some ravages in the English army in Bengal, previous to this time; but by some it is believed to have been by a disease more like our Cholera-Morbus. From 1817, it made slow but steady progress Westward, extending in 1831 over nearly all Europe, reaching England as late in the year as October, and America, in 1832, carrying off its victims in Asia, by millions, and in our country by thousands; who does not remember its terrible ravages, and the terror preceding its approach? Notwithstanding the general opinion that it originated in the filth of India, and that uncleanness in cities still have much to do with its appearance, yet, in its first visit here, every class of persons—old and young—rich and poor—those living in mansions, as well as those in shanties, were alike subject to it.

Cause.—Notwithstanding the Cholera has paid us several visits since 1832, and some of the most philosophic men of the age have examined it in every possible way, no positive conclusion has yet been arrived at, as to its cause; but it is generally believed, however, to be contagious, yet upon this point there is also considerable disagreement, however, there is a pretty general agreement in one thing, that is, that the eating of such food as cucumbers, melons, cabbage, unripe fruits, etc., as well as the use of intoxicating liquors, have a great tendency to bring on the disease in the time of its prevalence, and to bring on Cholera-morbus at almost any time, if not used with proper care; and that exposures to cold, damp night air, and a great fear that you will have the Cholera, are almost sure to bring it on. I spent 6 weeks in Detroit, during Oct. and Nov. of 1832, while the disease was raging there, without a fear, or a symptom of the disease.

Symptoms.—In some instances there has been a general warning given of its approach, by a derangement of the stomach, gas, or wind in the bowels, fulness, or pain in the head, and other parts, considerable thirst, and a tendency to diarrhea, sometimes only for a few hours, and sometimes for a day, or two; and this has been general in a community, but not always; and sometimes it comes with a crash—carrying all before it; coming on with vomiting, purging, and cramps, which usually begin in the legs, but soon reach the stomach and become general, over the whole body; the tongue becoming pale, the pulse feeble, breathing hurried, and the heart laboring with distress, and the whole appearance manifesting great suffering; and finally terrible thirst, as the excessive watery discharges have carried off the watery, or more fluid parts of the blood; which, if no relief is given, soon brings on the stage of collapse—great prostration, skin cold and clammy, pulse scarcely perceptible, eye sunken, and the face, hands, and feet become dark colored as though the blood was becoming clogged, which it undoubtedly is, by the draining off of its fluidity, by the, now, involuntary discharges; and if the patient does not become insensible from stupor, will crave more air, water, or ice. This stage

may continue from an hour to a day, but very few ever recovering from this terrible stage; almost the only hopes of benefit is by beginning the *treatment* with the *beginning* of the disease.

Treatment.—Although the general treatment of Cholera has been very unsatisfactory, I believe it has been for the want of a common-sense *consideration* of the subject, and a common-sense *preparation* to meet it before its terrible pangs have made a lasting clutch upon the system. In other words, as its tendency is to exhaust the strength, and thereby produce a coldness of surface, almost equal to death itself, the first thing to do is to stimulate the internal as well as the external surface; and, in time of Cholera, for each family, and each individual who has come to the age of making their own calculation, to consider what they will do in case of an attack, and to have *on hand*, always with them, what they have determined shall be used in their own cases; then, when they realize that it is upon them, begin *at once*, with the remedy, and but few cases will reach the stage of collapse, whereas, heretofore, it has been the general result. To show the reader that I speak understandingly about the neglect of attention in the beginning of the disease, I will say that during the Cholera in Cincinnati in 1849, there was a Cholera hospital established there, and in the report by the resident physician, J. H. Jordon, M. D., to the Board of Health, at its close, he says that a large share of those who died were brought to the hospital after they were in the stage of *collapse*, many of them living less than an *hour* after their arrival. Let me repeat then, make up your mind what you will do if attacked with the Cholera, in any time when it prevails, and be ready with the *remedy*, on hand. If you do not wish to depend upon the remedies of this Book, go to your physician and get a *prescription*, and *instructions* from him how to do, and be ready to do it, if you *hope* for success.

Cholera being a disease that I have never had any personal practice in, except as an assistant in one sporadic (disease occurring in a single) case, I shall depend upon those who have not only attended to very many cases; but who also had the greatest success in its treatment; and among them, I have no doubt, but what the name of Professor T. V. Morrow stands pre-eminently high. He was one of the early associates with Dr. Beach, in medical reform, and, for a long time, a Professor in the Eclectic Medical Institute, of Cincinnati, and a very successful practitioner. So great was the confidence of Prof. Sherwood in the correctness of Morrow's plan of treatment of Cholera, that after giving a sketch of his own plan, while lecturing before the class, "I will now," he says, "present you with a synopsis of the modes of treatment, recommended by certain practitioners, whose *extensive* experience and *eminent* success in the management of this dreadful malady, entitle their suggestions to much consideration."

"I will read first, extracts from a lecture delivered by the late Professor Morrow, in this Institute, and published in the *Eclectic Medical Journal*, Vol. I., p. 277, as follows:

"The treatment pursued in each individual case was regulated by the condition of the patient at the time of being called. In a *very large majority* of the cases that came under my notice the patients were affected with diarrhea, great prostration of strength, nausea and vomiting, with slight spasms. In the early periods of such cases, the patient was directed to go to bed, if he, or she had not already done so, and was directed to take *freely* of the:

2. "Cholera Cordial preparation, composed of equal parts of rhubarb root pulverized, saleratus, and peppermint plant, powdered. To $\frac{1}{2}$ oz. of this mixture, boiling water, 1 pt. was added. After simmering it for $\frac{1}{2}$ an hour, it was well sweetened with white sugar, and strained, and when nearly cold, 2 or 3 table-spoonfuls of French brandy were added, and the patient was directed to take this *warm*, every 15 or 20 minutes in doses of 2 table-spoonfuls, in connection with the following:

3. "Tincture.—Made by adding 1 oz. each, of pulverized allspice, cinnamon, cloves, gum guaiacum, and nutmeg, to 1 qt. of good French brandy, in doses of from 2 tea-spoonfuls to 1 table-spoonful every 20 minutes, to an adult, placing immediately around the body of the patient, hot bottles of water, hot bricks, or stones, and covering the patient well, in bed, with a suitable quantity of warm clothing. This course will soon produce a warm, copious perspiration, which should be continued for 6, or 8 hours at least; and, if the case is a *severe* one, a moderate moisture of the skin should be kept up a *longer* period.

"This course usually puts a *quietus* (a final discharge, or acquittal) on the nausea, vomiting, and diarrhea." (What more could be asked?)

"This plan of management" he goes on to say, "is nearly positively certain of success, if properly carried out, in every case, in the *earlier stages* of its progress" (you see it must not be put off, as I have taken especial pains to point out), "and, as a general rule, there is but little difficulty in carrying it into the desired extent of operation, in fulfillment of the great indications for which it is intended."

What I deem to be just as good, yet a less troublesome way, for *family use* would be to combine the two preparations, above given, as follows:

4. Cholera Mixture.—Rhubarb root, peppermint plant, allspice, cinnamon, cloves, nut meg and gum guaiacum, all pulverized, of each, 1 oz.; brandy, 1 qt.; soft water, 1 pt.; saleratus $1\frac{1}{2}$ ozs.; sugar, 1 lb.

Put the roots, barks, plants, and gum into the brandy and shake it daily for 2 weeks, strain and press out and bottle the mixture; then add the water to the drugs and steep for an hour or two, and strain and press out again and add to it the sugar and saleratus, and this to the spirit mixture.

Dose.—A table-spoonful every 15 or 20 minutes in a little hot water, or hot spirits and water, as above, and all the other plans of hot bottles of water, bricks, or stones, the same, as convenient; but any one choosing, can pursue the *double*, or *two* medicine plan, being careful to give first a dose of one, then the other.

But to proceed, he says: "In those cases, however, which were marked by *strong spasms*, *violent vomiting*, and *purging*, from the *commencement*, and which had not already passed into the stage of *collapse*, or if this violent *train of symptoms* was present at the time of seeing the patient, whether the attack commenced with them or not, I usually commenced the treatment with an emetic of the following compound."

5. Cholera Emetic.—"The saturated (made as strong as can be) acetous tincture of sanguinaria Canadensis (blood root); and of lobelia inflata (lobelia), tinctured in the same manner (in vinegar;) and of the spirituous tincture of aralia spinosa (Southern prickly-ash), equal parts of each, and give it in doses of from 1 to 2 table-spoonfuls,

every 10 minutes, mixed in a little water, or hot tea, sweetened, till the patient vomits freely 5 or 6 times.

"This, in all cases, seemed to exert a powerful controlling influence over the subsequent course of the symptoms of the numerous cases in which it was used. Perspiration was much more readily induced, and continued without the necessity of using a course of measures so efficient as those first indicated, or rather under the same, less vigorously applied."

6. **Hunn's Life Drops For Cholera, etc.**—This "preparation composed of equal parts of the oil of peppermint, cloves, anise, and cajeput," (say 1 oz. each) "with a quantity of alcohol, equal to one-half of this mixture of the oils" (say 2½ ozs.) "to cut them and allow them to mix intimately, was found to possess a high degree of value in the treatment of severe cases of Cholera. This, I understand, was a favorite remedy in the treatment of this disease, in 1832, and was extensively used by the late Dr. Anthony Hunn, a celebrated medical reformer, of Kentucky, and is still known by the name of 'Hunn's Life Drops,' in some parts of the country. In several very severe cases, this compound manifested great controlling powers, in doses of from 1 tea-spoonful to 1 table-spoonful every 15 or 20 minutes, mixed with half a glassful of hot brandy-sling. In one case in which the patient was in a violent spasm in all of the flexor, muscles of the body, with the thighs drawn up against the abdomen, and the legs against the thighs, the neck and head forward against the breast, with a violent state of contraction of the abdominal muscles, two tea-spoonfuls of this compound were given with but little effect, but, this was followed, in 10 minutes by a table-spoonful, which soon effected the desired relaxation, and relieved the patient. The patient described the influence as very powerful, and penetrating, even to the extremities of his toes and fingers. This powerful concentrated medical compound manifested very superior powers in those cases in which the patient was rapidly approaching the state of collapse, or even in the earlier periods of that stage, accompanied at the same time with obstinate (continued nausea) and vomiting, as well as profuse watery discharges from the bowels. In several cases, after the relief of the spasms, nausea and vomiting, an obstinate and moderately profuse (free and frequent) diarrhea still continued; then, one-half, to a tea-spoonful of this preparation was given with complete success.

"There were several cases of this complaint, in which, after vomiting, cramps, and pains were all relieved, the patient was annoyed with a frequent desire to have a discharge, but could only pass a little slimy mucus, similar to the discharges in dysentery. From 10 to 15 drops, of this mixture, were given every hour, with almost invariable success in cases of this kind.

"In 1 or 2 cases of collapse which were treated by me, I found the sudorific (sweating) tincture a most valuable medicine, given in a little hot catnip or peppermint tea. It quieted the deep-seated nausea and distress, and restored the lost circulation with singular energy and promptitude.

"The application of blankets over the whole body, as hot as could be handled, often dipping them into boiling-hot water, was found to exert a most beneficial influence. The rule adopted in reference to their use, was to wring them partially dry after immersing them in the water, and then apply them by wrapping them around the

patient's entire body, leaving the head and neck free, and covering him over with dry bed clothing, and allowing them to remain usually 15, or 20 minutes, when they should be taken off and new hot blankets immediately applied as at first. Re-action and a copious perspiration generally took place in the course of an hour, or two, after commencing these applications, especially when aided by the use of proper internal stimulants, anti-spasmodics, and sudorifics" (all of which are found in the "Life Drops"—King says: "Cajeput Oil is a powerful diffusive stimulant, diaphoretic" [sweating-sudorific], "and anti-spasmodic).

"The extract of *plantago cordata*,† (water plantain, or heart-leaved plantain), also manifested powers of no inconsiderable value, when given in the form of pills of 2 grs. or more at a dose, and repeated in the course of an hour, in common cases not marked with symptoms of unusual severity, for the purpose of quieting the nausea and vomiting, and arresting the diarrhea." He closes the subject in the following words: "The results which have been consequent on the course of practice above indicated, have been highly satisfactory."—Jones & Sherwood's Practice.

In the case of Cholera referred to above, in which I assisted, with others, under the Doctor's directions, I cannot say what was used internally; but our part was to rub the surface with the hand, using as much mustard upon the limbs, and the whole surface, as we could stand it to breathe over, but the physician admitted to us that without our part of the treatment his would have been of but little account; as knots would rise up almost in a moment, by the terrible spasms; and, for awhile, it seemed that as fast as we could work one down another would arise; but, in from 1½ to 2 hours, the spasms yielded, and the case improved from that on. It is undoubtedly a very valuable auxilliary (helper) in the treatment of severe cases, perhaps not any better than the blankets wrung out of boiling-hot water, and not as good, unless there are 3 or 4 assistants to apply the friction with the mustard. Prof. Scudder, in his *Domestic Medicine*, on the subject of cramps, in Cholera, says:

"The cramps are an exceedingly troublesome feature of the disease, and are best removed by friction with dry mustard. This is also recommended to bring the circulation back to the surface, but without the slightest effect, until the internal remedies commence to affect the system. The compound tincture of cajeput" (Hunn's Life Drops) "is much the best local application, if it was not so costly."

I have only to say here, if the cost of the treatment is to enter into the consideration of trying to save the life of a patient, by no means make any effort at all; but if life is worth saving, "put the best foot forward," be ready, on the approach of Cholera into the region round-about you, and when you have to treat it, do your best, if you hope or expect success. The life drops are certainly a powerful tubefacient (to make red—to bring the blood to the surface), or liniment, and notwithstanding its expense, in Cholera, Cholera-morbus, or any

NOTE.—† King, in his American Dispensatory, says: "The root of *Plantago Cordata* is astringent, anodyne, anti-spasmodic, and anti-emetic. The decoction and extract have been successfully used in Asiatic Cholera, checking the disease in a short time: they have likewise proved beneficial in dysentery. The plant is certainly deserving more extended investigation. A poultice of the roots is recommended as an application to old, indolent ulcers, bruises, wounds, etc.; it allays inflammation, and reduces swelling."

other spasmodic action, should be applied freely, externally, and, so much as needed, internally.

In mild cases, and in cases generally that are to be began with as soon as any symptoms of the Cholera appear, in the time of its raging in the neighborhood, I have another, less expensive, but, if I may judge from the explanation following it, a very valuable preparation for Cholera and Diarrhea, as follows:

7. Cholera and Diarrhea—English Remedy—Tested in 240 Cases Without a Failure.—Spirits of camphor, laudanum, and oil of turpentine, of each, 3 drs.; oil of peppermint, $\frac{1}{2}$ dr. Mix, and cork.

Dose.—For Cholera, 1 table-spoonful in a glass of warm, weak brandy and water—for Diarrhea, 1 tea-spoonful, in the same way.

This prescription was sent to the *Scientific American* by W. W. Hubbell, of Philadelphia, April 23, 1866, with the following explanation of its trial by the "Liverpool Dock Committee," which was appointed in 1849, to attend to that part of the city, in the cases of Cholera that might occur. And the Committee report "that 157 men of the North Works, and 93 men of the Dock Yards, who had been attacked by Cholera, or Diarrhea, had taken the medicine, and the whole of them had recovered. While 10 men of the North Works, and 13 of the Dock Yards, similarly attacked, but who had not taken the medicine, had died. In not a single case had the prescription failed. Medical men assert, and experience shows, that this is an excellent remedy, and well worth being kept on hand by every family."

A child, according to the severity of the attack, and its age, may take from 5 to 20 drops; and it might be repeated in from 30 minutes to an hour also, according to the severity. But it must be remembered, that in giving any preparation to children which contains laudanum, morphine, or opium, it can not be repeated as freely as it can with grown persons, for their systems can not resist the poisoning influences of opium, comparatively with the adult.

8. Cholera Remedies—Successfully Used by the Rev. Dr. Hamblin, of Constantinople, in Hundreds of Cases.—The following "invaluable medicine" was communicated to the *Boston Traveller*, by Henry Hoyt, in the following words:

"Rev. Dr. Hamblin, of Constantinople, saved hundreds of lives by the following simple preparation during the terrible raging of Cholera in that city a few years since. In no case did the remedy fail where the patient could be reached in season. It is no less effective in Cholera-Morbus and ordinary Diarrhea. A remedy so easily procured and so vitally efficacious should be always at hand. An ordinary vial of it can be had for 25 cents or so, and no man should be without it over night. The writer of this received the Receipt a few days since, and having been seriously attacked with the Cholera-Morbus the past week, can attest to its almost magic influence in affording relief from excruciating pain. He ardently hopes that every one whose eyes trace these lines will cut this article from the paper and procure the medicine without delay. Its prompt application will relieve pain and presumptively save life:

Take one part laudanum; one part camphorated spirit; two parts tincture of ginger; two parts tincture of capsicum.

Dose.—One tea-spoonful in a wine-glass of water. If the case be obstinate, repeat the dose in 3 or 4 hours."

I should say, in a bad case, do not wait more than 1 to 1½ hours before repeating the dose, according to the severity of the case.

9. **Cholera Treatment, as Practiced in India, by the Inspector General of Hospitals.**—Dr. John Murray, the Inspector General of Indian Hospitals, and an authority on the subject of Cholera, has communicated to one of the English journals an important paper on this disease, from which the following is extracted:

"It is our duty to assist Nature and to relieve pain. In the stage of malaise (the first symptoms), the poison is thrown off without any violent, or very prominent symptoms by the natural functions of the system. Our task here is to support the strength, avoid indigestible food, and depressing causes. The only medicine that I have found useful in this stage is a little quinine every day. The subsequent indications of the treatment are to remove the abnormal symptoms as they appear, of which the most early is Diarrhea. The first indication is to check this, and restore the case to the stage—simple Diarrhea; then remove the cause, and restore the natural secretions. Irritating, or indigestible food, in the bowels, is the most frequent cause of Diarrhea; and should this not previously have been discharged in the evacuations it should be removed (I suppose by gentle cathartic), and a recurrence of the looseness guarded against, as I have always found it the most powerful exciting cause of collapse. I have found this best carried out by a combination of opium, with carminatives in the form of Cholera pill, composed of:

"Opium, 1 gr.; black pepper, 2 grs.; and assafoetida, 3 grs.

"It appears to check the looseness, and stimulate the secretions. The pill does no harm if needlessly administered. It should be repeated should the looseness continue. It will cure most cases, and in all restrain the symptoms until regular medical advice can be procured. This is a most important point in the use of this simple remedy. It may be distributed to every house, and be available in a few minutes, whereas the delay of a few hours may allow the disease to advance beyond control. I know no better remedy for this stage. These pills have been distributed in tens of thousands in the towns and villages in India with most satisfactory results. Some surgeons prefer red to black pepper, and others add camphor to the opium and assafoetida, and report favorably of the combination. They are distributed in the dispensaries, and are placed in the hands of the police in India. In this country similar arrangements might be made.

"In collapse, our power is limited by the circumstances that the vital organs are insensible to the ordinary action of medicines. Experience shows that opium, astringents, and alcohol lie inert in the collapsed stomach, though these are the ordinary remedies for pain, looseness, and debility. It is also my experience that the free use of these remedies at this stage causes death, either by preventing reaction, or by causing local complications should reaction appear.

"There is another cause of death which is not generally understood, but which it is not in the power of all sufferers or attendants on the sick to check or prevent. I allude to the extreme danger of assuming the erect posture, or even of sitting up in bed, during the collapse, or the earlier stage of reaction. I have seen myself, and I have heard of many cases, where fatal syncope instantly followed sitting up in, or rising from the bed."

10. Cholera-Morbus Tincture.—When pain in the bowels, and diarrhea arise from eating green fruits, or other vegetables, the following tincture will be found very valuable, the rhubarb helping to carry off the offending matter:

Sirup of rhubarb, paregoric, and spirits of camphor, of each, equal parts.

DOSE.—One tea-spoonful every 1, 2, or 3 hours as needed, and if very bad, for 2 or 3 times, give every 30 minutes.

And if the difficulty continues any considerable time, the old French method was to give no food except chicken-broth.

CHOLERA-MORBUS.—The stomach and bowels are the seat of this disease, although, as in Cholera, its effects soon extend to the muscles of the body and extremities. It is generally confined to the Summer and Fall seasons of the year, but I have known it to occur in the depth of a Minnesota Winter, for cause.

Cause.—This disease probably more generally arises from a continued over-eating of indigestible food in the latter part of Summer, and beginning of the Fall, as fruit and vegetables not fully ripe; but it may arise from a single eating of any one article, which from some unknown reason may not agree with the stomach, at the time, as, for instance, when I was in Minnesota, in the Winter, I had a very severe case of it arising from eating parsnips, although ordinarily they agreed with the patient; but such cases are not common, in the Winter; but in its proper season, hot days followed with cold nights, are quite likely to bring it on, especially so, if there is any improper food indulged in. Persons who are in feeble health, especially, should be very careful during its season, for they are more likely than those in robust health, to take the disease—avoid, then, all unripe, and otherwise irritating kinds of food and drink, that are liable to run into fermentation.

Symptoms.—Nausea, with pain in the stomach, or flatulency (gas), may be the first sensations that anything is wrong; but they will soon be followed with griping and pain in the abdomen, with vomiting and purging, in turns; at first the passages will be watery, but soon take on a dark, or bilious tinge, becoming more bilious as the disease progresses: and all the symptoms becoming more severe and intense, as the disease progresses; and although the thirst may be great, scarcely any drink will be retained; the pulse becomes small and feeble, the countenance becomes haggard, and the deepest distress is manifested, a cold sweat finally breaks out, and the prostration becomes extreme, which it would appear, sufficiently indicate, or point out the case.

Treatment.—If it arises soon after a full meal, or the eating of any one, or two articles in considerable quantity, the best thing is to get that out of the way, by the *Cholera emetic*, given in the Cholera treatment, above, unless the contents of the stomach, are thrown up in the vomiting from the disease; in that case, give 2 or 3 doses of Hunn's Life Drops, to warm up the stomach, then follow with the *Cholera mixture*, or *Cholera cordial*; or, if the regular *neutralizing cathartic cordial* is on hand, which it always ought to be, give that, until the disease is under control. But, in ordinary cases, of not very great severity and pain, the *neutralizing cathartic*, in full doses, repeated once or twice, on short time, then at longer intervals, will be all that is required. If the pain is very great in any case, put a mustard

plaster over the stomach, and if need be, one over the bowels also; and give 20 to 30 drops of laudanum, with a few drops of the *neutralizing* medicine; and in case of very great distention of the bowels from the presence of gas, let a catheter be introduced well up the rectum to allow its free escape. The neutralizing medicine may be vomited up once or twice, but hardly ever more, if it is, repeat in 5 minutes. If mustard is needed, and none on hand, take cayenne, or red peppers and boil, or steep a spoonful or two in a basin of water, and wring cloths out of it, hot, and apply and change in its place.

In case the disease seems to pass down from the stomach, and, yet, appears to cause great distress in the bowels, give the following:

Injection.—New milk, or slippery elm mucilage, or common gruel if neither of the others are at hand, to a pint of which add molasses, $\frac{1}{2}$ pt.; lard, 1 table-spoonful; laudanum, salt, and saleratus, of each, 1 tea-spoonful, all well dissolved, and inject as warm as can be borne, which soothe and relieve the pain, and allow a more free exit of gas. In case of cramps, friction must be applied, with dry mustard, if necessary, put in hot water, applying hot bricks, etc.

When the disease begins to pass off, and the patient craves food, or drink, let milk-gruel, made with a little flour, elm-water, toast-water, etc., be given, in place of indigestible, or hard food.

CHOLERA-INFANTUM.—The difference between *infant Cholera*, and that of the Asiatic, or full-grown Cholera, is the *speed* of the latter and the *lingering* of the first. That the whole of them, including the *Cholera-morbus*, are somewhat *akin*, there is not much doubt. Summer, and Fall, are the general periods of their approach; and they are all much worse in the city than country. Cholera-Infantum is more often known as *Summer-Complaint*, perhaps than by any other name. And in the cities has undoubtedly carried off more children than all other diseases put together.

Cause.—As it is a disease more often occurring during the period of teething, this has been very generally believed to have been the *principal cause* of the disease; but, more recently it is believed, by many, as not the chief cause, and sometimes not at all the cause; for children have it that are not teething. Hence it is thought to arise more from the change in the system by the beginning of the child to eat solid food; and often that of a crude, or indigestible kind, and especially so if the child, or parents, are of a weakly and debilitated constitution—impure air, arising from the *thousands* of decaying rubbish-heaps in the city, producing debility: then, unripe fruit, cakes, candies, and confectionery, as a special excitant, are the chief causes of the disease; and if all were situated so that they could follow the indications here, *i. e.*, drop the crude and indigestible food, go to the free and healthy country, I need not proceed to give the symptoms, or treatment; but every one must come as near to the indications as possible, that is all they can do, and that is all they will be held responsible for.

Symptoms.—As a general thing the first symptom noticed will be a slight diarrhea; but when the attention of the parent is thus called to it, the child will also be found pale, and more or less weak and feeble; and the longer it is permitted to run, the greater the weakness, and loss of flesh. The appetite is precarious, sometimes eating voraciously, then nothing at all, but nausea and vomiting pretty surely following the taking of any considerable amount of food, or drink, either of which it may crave; and in some cases there is considerable

fever, and the child becomes restless, and irritable, contented only on being carried out of doors, in the daytime, and around the room of nights.

Treatment.—First, see that the child has nothing to eat except plain and nourishing food, no confectionery, nor unripe fruit, and no fruit unless well roasted apples, if the craving for them is very great, and the more out-door air, the better. Give the *neutralizing cathartic* in tea-spoonful doses, once in 1, 2, or 3 hours as may be necessary to control the acidity of the stomach, and correct the bowels. And the probability is that there is no other combination of medicine that will have as good an effect, as long as the disease may continue, as this *regulator*, which it has been truly called, as it corrects the acidity of the stomach, and cleanses it and the bowels, and restores their tone by its astringent and tonic effects. Continue its use until the passages become natural and healthy. In severe cases, the *injection* mentioned in cholera-morbus, with only a little of the laudanum, may be used, once, or twice daily, and will be found valuable; and in cases where there is fever, known by a dry harsh feeling to the skin, use bathing, or sponging, the water being of such a temperature as to feel comfortable to the child, and brisk friction, with a dry towel, or the hand, after the surface has been wiped with a towel. Any other severe symptoms that may arise, in any case, should be Treated the same, as in *cholera*, or *cholera-morbus*. An excellent diet, in these cases, is the old-fashioned thickened-milk, made by boiling milk, and thickening it with wheat flour that has been wet up with cold water, or cold milk, not to a watery mixture, but a lumpy condition, and stirred in while the milk is boiling; but it must not be made too thick. Rice flour makes a nice change also, for thickening the milk, or making a gruel, if good milk can not be had. With small children, great pains must be taken to dry them, as often as any passage makes a necessity for it—cleanliness is as much the mother of health, as of Godliness, as some one has said.

COLIC.—Colic, although much like cholera-morbus in some of its points, differs from it in this: That it is generally attended with costiveness instead of looseness of the bowels; and, consequently requires active cathartics, and a greater amount of stimulating carminatives to enable the stomach to retain the cathartics.

Cause.—It is supposed to arise from a want of the proper amount, or quality of the bile, hence the costiveness, and irritation of the stomach and bowels.

Symptoms.—Severe pain in the bowels is one of the distinguishing features of Colic, and there is often retching and vomiting, although seldom any purging; but, rather, as above stated, great costiveness. The taste of the mouth will be bitter and acrid, or bitter and nauseous. Pressure upon the bowels seems to give relief for a moment, when if the pain was from inflammation it would be tender under pressure. While in cholera there is a lack of bile, in Colic there is, generally, an over amount of bile, and such spasmodic contraction of the intestines, that the bile is thrown up, upon the stomach (the bile duct, from the liver, empties itself a few inches below the stomach, proper, and ordinarily passes along with the food that has received its portion of gastric [stomach] juice into the intestines) and is raised by vomiting, causing the bitterness of the mouth, and for the want of which, the costiveness arises; and the chief cause of

which, probably, is a failure of the skin and kidneys to properly secrete, or carry off their proportion of the effete, or waste matter of the system, throwing it all upon the liver to do, and which it *refuses* longer to do, leads me to the consideration of some plan which shall restore all these functions (special action) of the various organs, in rebellion against their proper and legitimate work.

Treatment.—A tea of the wild yam † (*dioscorea villosa*) has been found a perfect cure for Colic of the most painful kind. Hence, let every family provide some of it for use. An oz. of the root may be steeped in water, 1 pt.

Dose.—Give $\frac{1}{2}$ pt. and repeat every $\frac{1}{2}$ hour as long as necessary. King says, of it: "In the absence of any positive knowledge concerning the action of the *dioscorea* (it is always customary to write words of any foreign language in italics, and also any other word that we would call especial attention to), perhaps it would be better to say that it is a *specific* (positive cure) in bilious Colic, having proved almost *invariably* successful in doses of $\frac{1}{2}$ pt. of the decoction, repeated every $\frac{1}{2}$ hour, or hour. No other medicine is required, as it gives prompt and permanent relief in the most severe cases."

In the American Eclectic Practice of Medicine, by Jones & Sherwood, Vol. I., I find the following corroborative testimony of the positive success of the yam in this disease. Prof. Sherwood says: "The remedy upon which I rely in the treatment of bilious Colic is *dioscorea villosa*. I have used it with entire success in all the cases that have come under my care. In one case that had been previously treated 48 hours, with injections, fomentations, anodynes, and cathartics, without success, the patient was relieved in $\frac{1}{2}$ an hour by taking one dose of the *dioscorea*. In another case, to which I was called in the night, the patient, who had been suffering severely for 12 hours, was perfectly relieved in a few minutes, and soothed into quiet sleep. *It has never been known to fail*, and I should rely upon it with entire confidence in all cases of this disease. The philosophy of its therapeutic action may not, as yet, be fully understood, or clearly explained. That it is eminently adapted to the case is very certain, and *that*, after all, is the main point in practice. You may be interested to learn," he continues, "that the knowledge of its virtues was in possession of the same old German, who has given name to 'Bone's Bitters,' and who was also famous, in his neighborhood, for the treatment of bilious Colic. The Receipt was obtained from him by a medical student, whom he had successfully treated in that disease, after he had been given over by other physicians."

2. Prof. Scudder's Treatment of Colic.—In the June No. 1871, of the *Eclectic Medical Journal*, the Professor gives us the following successful treatment of Colic, and as the remedy can easily be obtained any time of year I give it an insertion. His heading is:

"**Nux Vomica in Colic.**—For a long time I have prescribed

† The yam, or Colic-root, has a small vine which runs over bushes and fences in hedges and thickets, not very common in New England, but grows from Canada to the South through the Central States. The stem is smooth, woolly, and of a reddish brown color, and may be 10 to 15 feet long, the leaves of a light green. The root is woody, lies just under the surface of the ground, of pretty irregular size, with both ends truncated (full size, like they were cut off), from the size of a common pencil to $\frac{1}{2}$ inch in diameter, from a few inches to a foot, or two long, and may have 3 or 4 vines coming up from 1 root. Steep 1 oz. in 1 pt. of water and take half for a dose. If needed, repeat in $\frac{1}{2}$ an hour. Relieves Colic, and consequently must be an excellent anti-spasmodic.

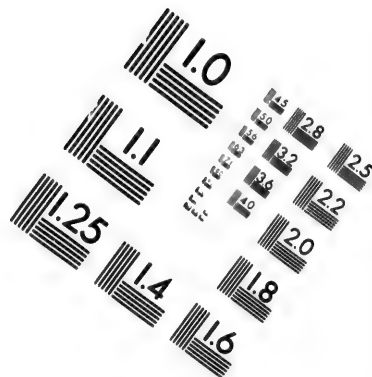
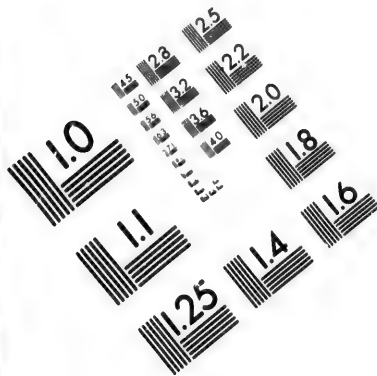
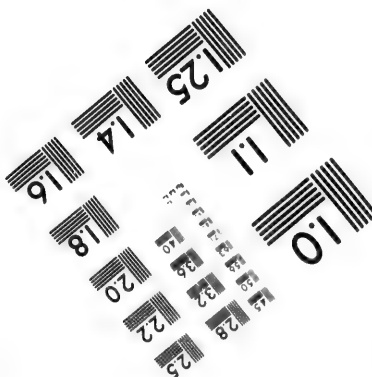
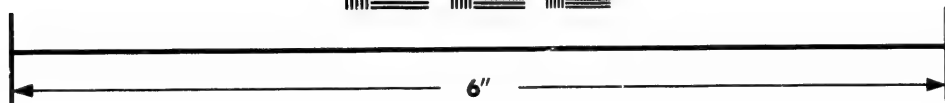
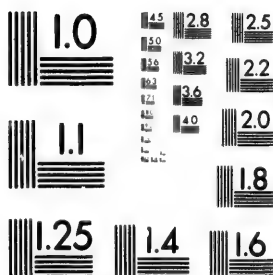


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Nux Vomica for Colic, and have found its action very satisfactory. I am satisfied there is no real difference in Colic, so far as the pain is concerned, the difference being not of kind, but of degree. Whether it is the Colic of infancy, the ordinary Colic from indigestion, wind Colic, cramp, bilious Colic, or from lead-poisoning, the pain arises from the same pathological condition of the nerves disturbed by the celiac axis (meaning the sympathetic nerves of the abdomen). The causes vary very greatly, and a Treatment directed to the removal of these causes, must necessarily vary in different cases. But if we are prescribing for the pain, we recognize it as one in all the different forms, and if we find a remedy that will reach it *directly* in one it will in all.

"Whilst I claim that **Nux Vomica** is a true specific to the condition of the intestinal nerves producing the pain of Colic, I would not claim it as curative in all cases, certainly not in lead Colic. The cause may be so active and persistent as to continue the pain despite this direct action upon the nerves, and a cure will only come from the removal of the cause.

"For the Colic of infancy and childhood, I prescribe it constantly, and in a large majority of cases it gives prompt relief. Not only present relief, but when the Colic is habitual it sometimes effects a radical cure. For a young child, one drop of the tincture to two ounces of water would be the proper proportion.

"DOSE.—from $\frac{1}{4}$ to 1 tea-spoonful, repeated as often as necessary.

"We meet with cases of Colic in young persons about the age of puberty, in which the pain is associated with variable appetite, impaired digestion, poor blood, and consequently impaired nutrition. In these cases **Nux Vomica** will usually remove the entire train of lesions, and the child regains good health on its use alone.

"In common Colic, I never think of giving any other remedy. The prescription is:

"Take tincture of **Nux Vomica**, 10 to 20 drops; water, 4 ozs.

"DOSE.—A tea-spoonful every hour.

"My experience in that form of Colic known as bilious is not sufficiently extended, having used it in but five cases. One of these has had repeated severe attacks, in which it has served the purpose full as well as any other means I have ever employed. One has had two attacks, both promptly relieved by this remedy. The other three, one attack each. One of these last was subject to frequent attacks, sometimes lasting from 24 to 48 hours, and leaving her very much prostrated. She had been under Homœopathic treatment, and though the remedies they employed relieved her at first, they had lost their influence. Two doses of **Nux** as above, gave her relief, and she went to sleep.

"I have prescribed it in mild cases of lead Colic only, but as it has given relief in these I should very surely try it in severe cases, giving sulphate of soda largely diluted until the bowels were moved.

"We have already called attention to the use of **Nux Vomica** in acute and chronic diseases, the remedy being selected by one symptom—*umbilical pain*. And singular as it may seem, we commonly find that it proves the remedy for the disease in its totality (whatever it may be), when this symptom is prominent.

"Thus we may see that in severe Colic, when the cause still persists, we may obtain a cure from the influence of the remedy upon the

nerves. For with good innervation the intestine speedily regains its natural power, and is sufficient for the removal of the cause."

But if the yam is not at hand and the disease has arisen immediately after having eaten a full meal, or any considerable amount of any one article, an emetic is the first thing to be thought of, and to settle and stimulate the stomach a little, to receive it, if you have Hnnn's Life Drops in the house give a dose or two of it while the emetic is preparing. If the Drops are not at hand, a very strong *ginger* tea, or *cayenne*, red pepper tea, $\frac{1}{2}$ pt. at least, quite strong, or spirits of camphor, ess. of peppermint, in large doses, will warm up the stomach, and enable it to retain the emetic until its relaxing properties may have their effect on the stomach and system generally; for whatever will relax the system will help the general disease. A full dram of brandy, or other spirits, in hot water and repeated in 20 to 30 minutes, often relieves without other treatment; but I would put in a tea-spoonful of black pepper if nothing else was at hand, with each dose. If the case is very severe, and there is not a convenience in the house for a hot-bath, let blankets be wrung out of boiling water and wrapped around the whole body, or at least over the stomach and bowels, and changed as soon as they become at all cool, for 2 or 3 times. And as soon as the emetic has operated and the stomach becomes a little settled give a large dose of the Tonic Cathartic, 2 table-spoonfuls, at least, and if the person is hard to operate upon with cathartics generally, repeat it in 2, or 3 hours; and give an injection using laudanum in quantities of $\frac{1}{2}$ to 1 tea-spoonful with each injection, according to the severity of the pain, and this may also be repeated unless, a passage, and general relief is soon obtained. In case an injection is given, a table-spoonful, or two of the Tonic Cathartic may also be put into it, until, a movement of the bowels is obtained, with which the pain will subside.

COLDS.—We often hear a class of remarks about "taking Cold," which are calculated to make us believe that those who make such remarks *disbelieve* in such a thing as *taking Cold*—they say, "where did you catch it?"—"what did you catch it for?"—"what are you going to do with it?" etc., etc. Is there, then, such a thing as to take Cold, and if so, what is it?

The true science of language is to enable one to plainly understand what ideas others wish to convey by the *use* of language; and the fewer the words used, the better, provided one is perfectly understood. I will suppose a man is engaged, upon a cold winter-day, chopping wood, by which means he has caused a free perspiration to have broken out over his whole surface, when a neighbor comes along, and one, or both of them are blessed with the gift of "gab," consequently they begin to talk, the chopper stops work and leans over the fence, the wind does not stop blowing notwithstanding the man has stopped chopping, his coat is still off also. They talk over the last neighborhood scandal, politics, price of pork, and produce generally, for half an hour, or an hour perhaps, his sweating has stopped, his skin has become dried up and shriveled, he begins to feel a sense of fullness, or pain in the head, difficult breathing, perhaps sneezing also, with a stuffed up feeling in the nose, etc., etc., and to save the time and words necessary to tell all of the above *symptoms*, he says, "I have taken Cold," which covers the whole ground. But, now, if he does not at once take a course to restore the circulation to the surface, and

re-establish perspiration, there will be, after a little, a slight mucus secretion from the nose, throat, and lungs, perhaps, and cold shiverings, with flushes of heat, alternating, with more or less severity; according to the severity of the change. It does not follow that Colds may not be taken only after severe exercise; for it matters not how this change is brought about—it may be by riding in the cold, or even walking, when the weather is so severe that the exercise does not hold the warmth to the surface, sitting in a current of air, a cold room, or in any way which throws the secretion that the skin usually throws off, in upon any internal organ; only, when it settles upon the nose and throat it is called "a Cold," although there, it is an inflammation, but when it settles upon the lungs, or their surrounding membrane, the pleura, it takes the name of "inflammation of the Lungs," or "pleurisy," "inflammation of the bowels," "kidneys," "stomach," etc., etc.

Weakly, or debilitated persons are more likely to take Cold than those of a more robust and healthy constitution, but the most healthy, by long exposures, or exposure to very severe storms, or changes, may also be attacked by inflammations, and, if they are, the consequences are often more severe than in the invalid; so the greater liability is offset by the greater severity. As the cause and symptoms have already been set forth, it only remains to give the

Treatment, which consists in restoring the circulation to the surface, and by holding it there for a sufficient length of time to overcome the tendency to recede, or "strike in." This is best done by exciting a free perspiration, together with such medicines as have a tendency to excite the skin to carry on its legitimate work, i. e., to throw off sensible perspiration (sweat), or insensible perspiration (that which is so slow that it is not observed). The diaphoretic, or sweating powder, or any of the hot teas that a person may have at hand, in connection with the sweating process, as given below, or any of the aids to sweating, as found under their various heads.

The old "grandmother plan" was to soak the feet in hot water, give hot hemlock, catnip, or other hot teas, at bed-time, which if pursued with sufficient vigor was excellent. Then came the plan of the "rum sweat," or alcoholic sweat, which Prof. King, of Cincinnati, O., introduced to the medical profession some 25 years ago, which was done by burning alcohol in an open dish; but the heat was very great upon the lower limbs and up the sides, from the great surface of the blaze; and some were afraid of it as dangerous in setting fire to the clothes, and accidents have occasionally arisen from its use, but I am very glad to announce a perfectly safe and successful way. It is as follows:

2. Dr. G. Johnson's (London, England) Cure for Colds, and Recent Catarrh.—Dr. Johnson is the Professor of Medicine in King's College, and gave his plan to his class, in the Winter of '69-'70, from which the *Scientific American* in March, 1870, gave the following quotation:

"The popular domestic treatment for a Cold, consists in the use of a hot foot-bath at bed-time, a fire in the bed-room, a warm bed, and some hot drink taken after getting into bed, the diaphoretic (sweating) action being assisted by an extra amount of bed clothes. Complete emersion in a warm bath is more efficacious than a foot

bath; but the free action of the skin is much more certainly obtained by the influence of hot air—most surely and profusely, perhaps, by the Turkish bath. The Turkish bath, however, is not always to be had and even when it can be had, its use in the treatment of recent Colds, or Catarrh, is attended with some inconvenience. In particular, there is the risk of a too speedy check of the perspiration after the patient leaves the bath. So that, on the whole, the plan which combines the *greatest degree of efficiency with universal applicability, consists in the use of a simple hot air bath, which the patient can have in his own room.* All that is required is a spirit lamp with sufficiently large wick. Such lamps are made of tin and sold by most surgical instrument makers.

"The lamp should hold sufficient spirit (alcohol) to burn for half an hour. The patient sits, undressed, in a chair, with the lamp *between his feet*, rather than under the chair, care being taken to avoid setting fire to the blankets, of which an attendant then takes 2 or 3 and folds them around the patient from his neck to the floor, so as to enclose him and the lamp, the hot air from which passes freely around the body. In from 15 to 30 minutes, there is usually a free perspiration, which should be kept up after this, for a time, by getting into bed between hot blankets. I have myself gone into a hot air-bath, suffering from headache, pain in the limbs, and other indications of a severe incipient (beginning) Catarrh (Cold in the head), and in the course of *half an hour* I have been entirely and permanently freed from these symptoms, by the action of the bath.

"Another simple and efficient mode of exciting the action of the skin consists of wrapping the undressed patient in a sheet wrung out of hot water, then, fold over this, 2 or 3 blankets. The patient may thus remain 'packed' for an hour or two, until free perspiration has been excited."

3. If this "rum sweat," as it was formerly called in this country, is good to break up a cold when it settles, or seats itself in the head why should it not be just as good to break it up when it seats itself upon the lungs, or pleura, taking the name of inflammation of the lungs or of pleurisy, or any other part, as the case might be?—it certainly is.

I have found, however, that the common lamp with *one or two* wicks, makes too little heat, as the old saucer plan made too much, so I have had one made with *four* burners, the tubes being only about one-fourth of an inch in size, this gives exactly the desired heat, so it can be continued as long as desired, without burning the limbs or endangering the blankets. See SWEATING PROCESS.

And now then, I wish to ask again, if the foregoing plan will cure Colds, or Catarrhs, as they are more generally called, and I know they will, why may they not just as efficiently cure inflammation of the lungs, or pleura (pleurisy), or any other inflammatory diseases? They certainly will, if taken in time, and the perspiration is kept up for 20 to 40 minutes in the bath, then by "hot slings," or "hot teas," for an hour, or two, in bed, the course will not have to be repeated in *one* case out of *ten*, if the cure is applied the *first* day, or *evening*, on which the Cold is "taken." But, in case a Cold, or Catarrh, or an attack of pleurisy, or inflammation of any other part is not broken up by the first process, repeat it after a lapse of 6 to 12 hours, according to the severity of pain, or the tenacity of "grip" manifested by the disease.

And in chronic, or long standing cases, this process will be found valuable to break up old habits of the system, to begin with, and to repeat occasionally.

But the consequences of "checking perspiration" are so often fatal, unless the above, or some other plan, is at once resorted to, "to break up the Cold," as it is properly called, I have felt constrained to quote a few cases from Dr. Hall's *Journal of Health*, and to exhort all who may find themselves under any similar conditions, to loose no time in adopting some plan of sweating and its accompanying treatment, whether it be night, or day, if they wish to avoid the end of such cases as are given below. *If they do not attend to it at once, and stick to it until perspiration is again established, the consequences may prove equally alarming.* Upon this subject Dr. Hall says:

"If while perspiring, or while something warmer than usual, from exercise, or a heated room, there is a sudden exposure to a still, cold air, or to a raw, damp atmosphere, or to a draught, whether at an open window, or door, or street-corner, an inevitable result is a violent and instantaneous closing of the pores of the skin, by which waste and impure matters which were making their way out of the system are compelled to seek an exit through some other channel, and break through some weaker part, not the natural one, and harm to that part is the result. The idea is presented by saying that the 'Cold' has settled in that part. To illustrate: A lady was about getting into a small boat to cross the Delaware; but wishing first to get an orange at a fruit-stand, she ran up the bank of the river, and on her return to the boat found herself much heated, for it was Summer, but there was a little wind on the water, and her clothing soon felt cold to her; the next morning she had a severe Cold, which settled on her lungs, and within the year she died of consumption."

"A stout, strong man was working in a garden in May; feeling a little tired, about noon, he sat down in the shade of the house and fell asleep; he waked up chilly; inflammation of the lungs followed, ending after 2 years of great suffering, in consumption. On opening his chest, there was such an extensive decay that nearly the whole lungs were one mass of matter.

"A Boston ship-owner, while on the deck of one of his vessels, thought he would 'lend a hand,' in some emergency; and, pulling off his coat, worked with a will, until he perspired freely, when he sat down to rest awhile, enjoying the delicious breeze from the sea. On attempting to rise, he found himself unable, and was so stiff in his joints, that he had to be carried home and put to bed, which he did not leave until the end of 2 years, when he was barely able to hobble down to the wharf on crutches.

"A lady, after being unusually busy all day, found herself heated and tired toward the close of a Summer's day. She concluded she would rest herself by taking a drive to town in an open vehicle. The ride made her uncomfortably cool, but she warmed herself up by an hour's shopping, when she turned homeward; it being late in the evening, she found herself decidedly more chilly than before. At midnight she had pneumonia (inflammation of the lungs), and in 3 months had the ordinary symptoms of confirmed consumption.

"A lady of great energy of character lost her cook, and had to take her place for 4 days; the kitchen was warm, and there was a draft through it. When the work was done, warm and weary, she

went to her chamber, and laid down on her bed to rest herself. This operation was repeated several times a day. On the fifth day she had an attack of lung fever; at the end of 6 month she was barely able to leave her chamber, only to find herself suffering with all of the more prominent symptoms of confirmed consumption; such as quick pulse, night and morning cough, night sweats, debility, short breath, and falling away.

"A young lady rose from her bed on a November night, and leaned her arm on the cold window-sill, to listen to a serenade. Next morning she had pneumonia, and suffered the horrors of asthma for the remainder of a long life.

"Multitudes of women lose health and life every year, in one of the two following ways; By busying themselves in a warm kitchen until weary, and then throwing themselves on a bed, or sofa, without covering, perhaps in a room without fire; or by removing her outer clothing, and perhaps changing her dress for a more common one, as soon as they enter the house after a walk, or a shopping. While the rule should be invariably to go at once to a warm room and keep on all of the clothing at least *five to ten* minutes, or until the forehead is perfectly dry. And, in all weathers, if you have to walk and ride on any occasion, do the riding first."

Let it not be thought that the above cases are isolated, or uncommon; for such cases are occurring in almost every city and village, daily; in country neighborhoods, perhaps not so often, but occasionally; for, I speak from what I know, by over 50 years of observation, that they are too true; but, let it be as distinctly understood, that if these very cases, *nine* out of every *ten*, if not 99 out of every 100 of them, were treated with the "SWEATING PROCESS," as above described by Professor Johnson, as illustrated also under the head of SWEATING, which see, I say at least *nine-tenths* of them would, in a few days, if not in a few hours, have been *all right again—whoever neglects a Cold does it at the peril of their lives, or to the destruction of health.*

3. Chronic Catarrh—A Very Successful Remedy.—The following remedy has been found very successful in the treatment of those difficult cases:

Iodine, the size of a common bean; alcohol, 1 dr.; soft water to fill a 2 oz. vial.

Put the iodine and alcohol into the vial and shake until dissolved; then put in the water.

TO USE.—Have a small, or ear syringe, and first inject warm water to wash out the nostrils and throat; then inject 1 syringeful to each nostril, daily, will cure, as far as it can reach the inflamed surface, within from 1 to 3 weeks according to the length of time the disease has been standing; at least it has done so in cases that were so bad as to make people vomit from the bad matter that reached the stomach on rising in the morning.

I have given this Receipt just as I obtained it, of a gentleman in whom I can put implicit confidence, as to its effects upon himself, and others, and I have no doubt of its having done what he says; and, I have given it for the reason that I know that the thousand-and-one remedies for *Chronic Catarrh* generally fail; but I have great hopes that such benefit will arise in the use of the iodine; and if complicating diseases which persons may have, as dyspepsia, rheumatism, derange-

ment of the liver, as costiveness, etc., are properly treated, in connection with the *iodine*, I think these hopes will be realized.

But it must be remembered that a Chronic Catarrh is a chronic inflammation of the membranes lining the nasal passages, and that in *all* inflammations there is a concentrated, or larger than a usual amount of blood to the parts; hence, an equalization should be undertaken by restoring the skin, kidneys, liver, etc., to their healthy action, by proper bathing and friction to the surface, proper diuretics, cathartics, etc., to ensure success—the same if any *chronic* inflammation, of any part, the same as in an acute one, or one brought on by a recent cold—why not? Is this unreasonable? Certainly not.

COSTIVENESS.—This condition of the system is generally only a symptom of some derangement of the digestive organs, for a correction of which, see **DYSEPSIA**, and the **MISCELLANEOUS RECEIPTS**.

CONSUMPTION.—Consumption, properly speaking, is the decay, or wasting away of any organ of the body, or of the body itself; but it has become common to apply it to a diseased condition and wasting of the substance of the lungs only.

Cause.—It is understood to be an hereditary disease; but it undoubtedly also arises in persons of an enfeebled and debilitated condition of the system, especially of the blood; from neglect or mistreatment of other diseases; from frequent "colds" which check perspiration and throw their effects upon the lungs; intemperance in living; tight lacing; heated ball-rooms, then into the cool air half-a-dozen times, perhaps, in an evening; sedentary habits; confinement in close and ill-ventilated rooms in factories, etc.; long continued watching and anxiety; disappointments; over indulgences of the passions; and by a deposit of tubercle (small particles of diseased matter which readily passes into a still greater degree of disease), first in the upper portion of the lungs, or lung, as the case may be, then extending, perhaps, to the whole extent of the lungs.

Symptoms.—The Symptoms of Consumption are too well known to require any lengthy description. If the disease arise from an inflammation of the membrane covering the substance of the lungs and forming the air-cells, the first Symptom will be a slight or more severe pain, according to the degree of the inflammation, generally, at first in the upper portion of the lungs; but, if from tuberculous deposit, cough will be the first Symptom—a short, dry hacking and tiresome cough; and finally pain in the breast, or whole of the lung, or lungs, slight fever, heat in the hands and feet, face, etc. The cough will be the worst in the morning, and the fever worst in the afternoon, perhaps, after having felt more or less chilly. (Is it not, then, a periodical disease, and, if so, why will not the anti-periodics help it, or cure it?) The appetite fails, the features have a sharp and contracted appearance, a sense of weight and constriction of the chest, or breast, and finally, perhaps, bleeding from the lungs, diarrhea, pain in the abdomen, hectic fever, *i. e.*, constant fever, with considerable thirst, all of which Symptoms, as the disease advances, become aggravated, or worse, the nails curve over the end of the fingers, the voice becomes weak and more or less hoarse; and, finally the limbs become bloated, or swollen, and the person may die suddenly from congestion (accumulation of blood) in the lungs, or linger and die merely for want of breath, from the decay of all the vital or life-giving substance of the lungs.

Treatment.—Weakness being the most common cause of Consumption, such medicines as will restore strength will greatly aid the cure of Consumption; for there are abundance of evidence, in the examination of the lungs of dead persons, and also of living witnesses, to show that very many cases have been cured; and what has been done can be done again. In the village of Sauk Rapids, Minnesota, I learned while living there, there are, undoubtedly, more than a dozen persons living, who went there from 2, or 3 to 15 years ago, with their lungs so badly diseased that they only *hoped* to live, that are now enjoying excellent health. The same is true of very many other towns in that State, and probably none more so than St. Paul. But I shall refer to this subject again.

If a "cold," or a succession of colds are taken which cause a soreness of the lungs without exciting sufficient inflammation to be called "inflammation of the lungs," the Treatment should be the same as for a more *decided* inflammation, *i. e.*, take a sweat, on retiring at night—the *alcohol lamp*, feet in hot water, hot teas, etc., are the first requisite, sponging and friction to the skin with a little sal-soda in the water, or what is better, is the cayenne pepper in whisky, $\frac{1}{2}$ oz. to the qt., or more, if that amount of pepper does not excite the skin to sufficient action to make it smart a little, using it night and morning, with out-door exercise, drawing in full breaths, the mouth being closed; then clasp the nose and gently blow so as to distend, or fill every pore, or cell of the lungs. Doing this for several breaths, and 3, or 4 times daily, will be found very valuable. And to obtain strength the most nutritious and easily digestible food must be used, in moderation. Most people eat *twice* as much as they need, which, instead of giving additional strength, as they suppose, gives less strength, because it gives the stomach over-work, thereby weakening the digestive powers. A moderate amount only, of nutritious and easily digested food, known to agree with the patient, must be used. Some physicians consider young and tender beef to be the only meat suitable for Consumptives, rare, at that; but I have found no inconvenience to arise from the moderate use of lean, tender mutton, young and tender chickens, broiled game, soft-boiled eggs, oysters, raw, or cooked, but raw is best if the stomach will tolerate them, and fresh milk, with a little good whisky in it will aid digestion. Cream, as a general thing has been found too rich for the stomach.

But the sweating process must only be used in the forming stages of the disease, in fact, it is only in the earlier states of Consumption that Treatment may be expected to do any *considerable* good. After night-sweats have set in, the skin must be stimulated by the cayenne sponging, as above mentioned, and friction, but no artificial sweating, which, to a certain extent will reduce the strength, if continued too long; but a warm bath, twice a week, at 90° to 100°, followed with brisk rubbing with a flesh-brush, or coarse towel for 15 minutes, will give great activity to the skin and help it to throw off the matter that otherwise is thrown upon the lungs.

As soon as the soreness is somewhat relieved by the sweating, etc., in the early stages, then take the following:

2. Pulmonic Syrup.—The roots of common, or garden spikenard, elecampane, comfrey, blood-root, and dandelion, bruised, and hops, of each, 4 ozs.; tamarack bark with the coarse outside, scraped off, and also bruised, if dry, 2 lbs.; if green, 4 lbs.; the best whisky, 3 qts.;

strained honey, 6 lbs.; muriated tincture of iron, sufficient quantity (see below). The roots are all to be dry except the dandelion, which is not as good to be dried.

Put the liquor upon the bruised mass and let stand 3 or 4 days, and put into a stout muslin cloth and strain and press out 2 qts. which bottle and set aside. Then put 2 or 3 gals. of soft water upon the mass and boil for 2 or 3 hours, and strain out the liquid, put on enough more water to cover the dregs and boil again for an hour or so, then strain and press out all the fluid, the two watery fluids should measure 6 qts., if much over that boil down to that amount, and add the honey, and the spirit that was set by, at first. White sugar may take the place of honey, if the honey *can not* be had, but the honey is 100 per cent the best. To each pt. bottle of this, as used, put in muriated tincture of iron, 1 oz.; and shake well.

DOSE.—From 1 to 2 table-spoonfuls, as the stomach will bear it without belching it up, every 2 or 3 hours. This will be found very valuable in the treatment of all affections of the lungs, allaying coughs, relieving the constriction, or tightness across the chest, and assists expectoration, and also gives color and tone to the blood, and through the blood to the general system. It will be found a very reliable preparation for all conditions, or stages of Consumption, or coughs.

I have my doubts of there being any better preparation, as a *lung sirup*, but there are those who have had excellent satisfaction from other sirups, or cordials, and there is one among them which I judge, from its composition, to be much better than most others, and so well satisfied am I of its value, I have thought best to give it a place. It is from Warren's Household Physician, by the late Ira Warren, A. M., M. D., of Boston. He thought so highly of it and used it so extensively in his practice that he made it in quantities of 16 gals. at a time, I have thought best, however, to take ozs. for lbs. in the prescription, which will make 1 gal. in place of 16. Those desiring an "alopathy" work of 800 pages for \$6, can address the publisher, Ira Bradley & Co., 20 Washington street, Boston. It is one of the most sensible works from that school, for families, that I have seen. The prescription is as follows:

3. Wild-cherry bark, ground, 10 ozs.; ipecac root, 1½ ozs.; blood-root, 1½ ozs.; squill-root, bruised, ½ oz.; pulverized liquorice root, 2½ drs.; cochineal, bruised, 1 dr.; anise-seed, 2 ozs.; fennel-seed, ½ oz.; orange peel, 1 oz.; acetate of morphia, ½ dr.; alcohol (76 per cent), 2 qts.; soft water, 2 qts.; pulverized white sugar, 40 ozs.; sulphuric acid, ½ dr. (If these figures are multiplied by 16, the amounts would agree with the original. Druggists may desire to make it in these large quantities).

Grind all the articles to a coarse powder, except those directed to be bruised, or pulverized, and put them *all* to the alcohol, *except* the wild-cherry bark, the water, sugar, and sulphuric acid. Let them stand 1 week, shaking, or stirring thoroughly, twice a day. Then, having kept the wild-cherry 2 days, in a covered vessel with water enough upon it to wet it through, place it in a percolator (a colander with a piece of muslin over it will do), and run 2 qts. of water through it. Add this to the alcohol and other ingredients. Let the whole stand 3 days longer, stirring as before, twice a day. Draw off, and filter through paper (through cloth in the colander, for families,

will do). Now add the sugar, and lastly the sulphuric acid. The acid is intended mainly to improve the color, by acting chemically upon the cochineal. The color is a fine cherry-red, tinged with orange. I very much prefer this to any of the "patent" pectorals that are kept on sale by druggists.

Dr. Warren says of it: "Upon no other preparation of medicine I have ever compounded have I bestowed as much thought and care as upon this. For five years I was incessantly experimenting, making and trying new combinations, and this is the result." And in his revised edition, he adds: "The assertion previously made that this is the best cough preparation ever made; I see no cause to modify in the smallest degree. Were it kept in every apothecary shop, and were physicians to prescribe it in pulmonary (lung) complaints, adding a little *sirup of squill*, or *wine of ipecac* when a more expectorant (increased discharge from the lungs or throat) "effect is wanted, or a *little* more morphine if a greater narcotism" (relieving pain and producing sleep) "is sought, it would save them much trouble in compounding cough sirups, and give them much more satisfactory results. I have compared its effects, again and again, with the best other preparations in use, and I pledge my word that it will succeed in *twice* as many cases as any other compound that may be chosen. Let physicians try it; and I will be responsible for every hair's breadth in which they find this proportion of successful results abridged."

It is, no doubt, an exceedingly valuable *cordial*; but notwithstanding its high praise by its originator, I do not by any means prefer it over and above the use of my *pulmonic sirup*, above given, but as there are places where the tamarack-bark cannot be easily obtained, and as there are those who prefer the *cherry* above *all other* preparations, I have deemed it but just to all parties to give it a place, together with his sensible remarks as to its superior value over the "patent" compounds found in the shops.

4. **Dr. Hale's Cough Tincture.**—Wild cherry bark, black cohosh root (*macrotys racemosa*), and liquorice root, of each, 2 ozs.; blood-root, 1 oz.; good whisky, 1½ pts.; soft water, 1 pt.; white sugar, 1 lb.; wines of ipecac and antimony, of each, 2 ozs.; (I greatly prefer, for my own use, tincture of lobelia, 1 oz. in place of the wine of antimony, but alopaths will prefer the wine of antimony, each can suit themselves).

Let the roots and bark be coarsely bruised, and put into the whisky for 48 hours, then strain and gently press to obtain 1 pt. of spirit, which set by, and put the water upon the roots, and gently steep, in a covered dish, for 2 or 3 hours, and strain and gently press out the liquid, in which dissolve the sugar, then add the spirit tincture, first set aside, and also the wine of ipecac and tincture of lobelia.

DOSE.—A tea-spoonful whenever the cough is troublesome. In recent colds, attended with considerable cough, take a tea-spoonful 2, or 3 times, once in ½ to 1 hour, before retiring, and it will ordinarily start a gentle perspiration, and very greatly help any other means of relief.

Dr. Hale, the originator of this Receipt was a successful practitioner for over 40 years, and made this his dependence as a cough medicine. Others also have used it with very great success.

After having written the foregoing, on the subject of Consump-

tion, I took up my *Eclectic Medical Journal*, for December, 1871, and was very much pleased to find a very learned, and satisfactory communication upon the *cause and appropriate hygienic and climatic treatment* of this disease from L. S. Lowry, M. D., of Claremont, Ill., wherein, he shows, very satisfactory to me at least, that the deposit of tubercle in the lungs (the real cause of Consumption, for it takes on inflammation, ulceration, and the consequent destruction of the substance of the lungs), is caused by a degeneration, or failure of the vital principles of life, to such an extent that they do not furnish nutrition of a sufficiently high order of vitality to supply the waste of the system, and consequently the strength fails, which is known to be the case, and also shows that these deposits of tubercle are of a fatty consistence, taken up from the already supplied fat of the tissues which cause the great emaciation of Consumptives, instead of, as generally believed, going to sustain life; and also argues, and I fully believe, that every dose of cod liver-oil, or other fatty oils, or food, goes to supply, or feed this very deposit, instead of, as believed, going to support life, actually shortens it by causing a greater deposit of tubercle to be made than would be without it. I should have been glad to have given his whole argument, through which he comes to the following conclusions; but as this work does not go into lengthy argumentative discussions, but takes advantage of what is made by them, which, on their face, seem to contain the *common-sense* principles of nature. I will give you his conclusions, and then close the subject with a few remarks as to what his arguments and summing up would appear to require at the hands of those who are afflicted with the disease, or who know that they are predisposed to it by transmission from their parents. His conclusion is in the following words:

"After diligently searching for the cause of phthisis (Consumption), we have found that but the one condition alone remains to attribute it to, viz.: Pervorted nutrition, and of the variety known as fatty degeneration. The cause, then, being fully understood; the Treatment no longer remains empirical, but can be rationally and specifically employed. And as I will only consider its hygienic and climatic modes of Treatment, I will leave its therapeutical management with the profession. My reasons for so doing are that I have seen very nearly every remedy recommended, employed in its Treatment, and in no case have I witnessed a single cure from their administration. But from proper hygienic measures, with a change of climate, I have seen flow most happy results.

"In the Treatment of all diseases, there is no one item of greater importance than the diet. In fact much depends on the degree and kind of nourishment the individual has received, and does receive, should he become the subject of any grave disorder or disease. Therefore the dietetic management of the patient is one grand feature in the Treatment of phthisis. Without proper attention to this, success will seldom crown our efforts. Indeed a strict observance to hygienic rules will many times accomplish a cure without any other means being employed. I will only consider the diet of the inhabitants of the temperate latitudes, as nature has made ample provision for both the frigid and torrid zones.

"Notwithstanding the rapid emaciation attending this disease, there has almost always been an error committed in its hygienic

mode of Treatment. With the emaciation there is a transformation of adipose tissue, and instead of being employed in the process of combustion as is generally supposed, it is taken up by the circulation and used in the cellular deposit of tubercle. And I am satisfied that this error in diet has many times lessened the patient's chances of recovery, from the fact that the agents usually employed as articles of food, contain both oils and fats, the very elements that should be used but sparingly in a diet for those suffering from phthisis. In order to fully elucidate this subject I will refer briefly to the identity of oils and fats. To do this I had as well quote from Youman's New Chemistry, page 349, section 961, where he says, 'The fats and fixed oils are a class of compounds having nearly the same chemical composition and properties. They are composed of carbon, hydrogen, and oxygen; the hydrogen being usually in excess with but a small proportion of oxygen.' Now physiology teaches that it is the hydrocarbonaceous elements of the food that are consumed, in order to maintain a normal temperature of the body. And in phthisis, the general circulation is never actively employed, owing to its increase of fibrin, therefore an oleaginous diet would certainly augment the difficulty.

"In regard to diet it may be said, in general terms, that it should be highly nutritious, consisting of a good proportion of animal food, but containing a very small per cent of fat. With this precaution in selecting a diet, I am fully convinced that a cure can often be effected even within the temperate latitudes. A temporary residence in some of our Western States, as northern Michigan, Minnesota, and Wisconsin, with proper attention to hygienic measures, where the deposition of tubercle is but slight, will many times effect a permanent cure. But should the patient have become the subject of *confirmed* phthisis, it is but making bad worse to remain longer in the temperate latitudes. We are now brought to the consideration of the climatic treatment of tubercular Consumption. We have glanced from one extreme to the other and found where the disease does, and does not exist—hemmed it in, as it were, and confined it to the temperate latitudes alone; nothing now remains but to select a climate that will benefit, and radically cure those suffering from phthisis. And to render the consideration of this important subject easy, we have but to keep before us the cause of this grave disease, viz.: an excess of fatty matter in the serum of the blood. A climate favoring the combustion of this element of the circulation in order to maintain a normal temperature of the body should be sought, at least for the temporary residence of the invalid. Such has been the wise provision of nature, that in this particular, as well as in every other, she has furnished us with a climate well adapted in every respect to the wants of the sufferer. This we will find in the higher latitudes, as the south temperate and torrid regions of the globe are decidedly objectionable on account of the intense heat, and their endemic diseases (diseases peculiar to these hot climates).

"While the inhabitants of the torrid zone appear to enjoy a special exemption from phthisis, yet they are continually harassed by a disease, that is possibly more fatal in its character than phthisis in the temperate latitudes. The yellow fever attended by the black vomit is very malignant in its rounds, and where the constitution of the individual is already greatly debilitated by disease, he can survive

but a short time. So peculiar to that latitude is this disease, that it is known only as an endemic (peculiar to that section), and certain thermometrical conditions are absolutely necessary for its development, as it is never known to occur, unless the thermometer has indicated 70° to 80° , for several days and even months. It scarcely ever is found further north than 40° of north latitude, its ravages being confined almost entirely to the torrid zone, or adjacent borders of the temperate latitudes.

"The great mortality attending this disease is mostly due to the rapid decomposition of that vital fluid, the blood, it being so thoroughly decomposed, that it will scarcely coagulate after standing several hours in an open vessel. It is from among strangers visiting that latitude, that a large per cent of the mortality is derived. Those from our Northern climates, as the English, Irish, and Scotch always suffer the most, which is probably owing to their national habits, and modes of life. The disease is violent, and its progress rapid in those of robust and healthy constitutions, while those of feeble vitality almost always perish in its onset.

"The disease being endemic then, the cause must necessarily be found to be in perpetual existence. And while it is so very fatal in its character, especially to those of debilitated constitutions, the Consumptive would certainly survive but a short time after transplantation. The sad inroads already made upon his constitution by phthisis would render him doubly liable to yellow fever, besides the incessant heat there, as indicated by the thermometer, would not require the consumption to any great extent of the hydro-carbonaceous elements of the blood in order to maintain the temperature of the body regularly at 98° F. Thus it will be seen that the great heat of that latitude, together with that terrible scourge, yellow fever, which so rapidly devitalizes the blood, would make it objectionable for the Consumptive; for he is already laboring under a disease that has impaired to a considerable extent the circulating medium, and it is certainly evident that a climate like that found in the warmer latitudes would hasten that fearful result, 'which divorces soul and body, a distant and indistinct foretaste of that dread cup which we must all one day drain.'

"Traveling northward into the higher latitudes of the temperate zone, we find a climate that is pretty well suited to the cure of phthisis, providing the deposition of tubercle is not too great. In fact any climate that has a sufficient elevation above the level of the sea, no matter whether it be mountainous and clad in perpetual ice and snow, or a level plain decked in nature's fields of living green, will always be found invaluable in the cure of Consumption. *But where the disease is of long standing, and the patient has inherited a tuberculous diathesis, with a considerable impairment of the lungs by tubercular deposits, a residence in the Arctic regions is necessary in order to effect a cure.* This, then, is the climate for the Consumptive, as it requires the combustion of all the oleaginous matter of the blood in order to maintain a normal temperature. 'I would by all means advise the Consumptive of this country to take up a residence in Russian America, or in Canada; and the Consumptives of Europe a temporary abode in Russia, or Russian Asia, but never by any persuasion to be lured from home and friends, but to find a grave beneath the shades of the poetic vine and olive.'—Battson.

"Before dismissing the subject I will say, although my experience has been limited in the treatment of this disease, yet from all my observations I am led to believe that the whole difficulty originates in the blood, and taking this view of the matter, I am firmly of the opinion that the only rational method of treatment for this affection is one of hygiene and climate. My views are but the result of a few years of careful investigation; however, I ask for them a calm and patient consideration, and if not consistent with facts that have been established, nor supported by future observations, let them share the fate of all other errors."

It will be observed that Dr. Lowry, in speaking of a residence in the South, refers to it as a permanency, in which I fully agree with him, but, for those who are able, in means (money), to go to Florida, or Cuba, or Texas, or Mexico, for the months of December, to March, when the yellow fever does not rage, then in Minnesota, or the northern portions of central Canada, for the Summer, I believe, yet I may be in error, that it would be preferable, at least for the first year, than to remaining in the North, through the severe cold of the Winter. I have spoken of Minnesota and central Canada, for the reason that it appears to me that the region of Lake Superior, or the easterly shores of Canada, from their consequent dampness, are not equal to those sections where the air is dry and pure as it is in the sections previously named. Permanent residence in the South, for *Consumptives*, I do not recommend; but, I do think that what is now known of the advantages of a permanent residence in Minnesota, as herein given, and also through various other sources, calls loudly upon all who know themselves, or any member of their family to be predisposed to this disease, to make all reasonable efforts to transfer their residences to these regions where *Consumption is not the terrible monster that it is in the Middle States*, yet it is a free country. Any one preferring death in an old home, to that of a longer life among *strangers*, has the right to choose for themselves. I have given what I know to be facts in many cases, and what I believe will receive the general assent of physicians, as well as that of the people. The pecuniary condition of some will not allow them to avail themselves of the advantages of a northern climate, and there will be others who will not read these pages until it be *too late* to take such advantage. To such may the joys of the religion of our Lord Jesus Christ, come home to their hearts, as it will, to all who truly believe in Him, and have the acknowledgement of their own conscience, that they have done what they *ought to have done*, under the circumstances in which they are placed—nothing more can be asked, or required of any one. But, let me add that I am not to be understood as recommending any one to go to the far North—Arctic regions—at all, Minnesota, or that range, East, or West, is as far North, as my knowledge permits me to recommend any one to go.

5. *Inhalation*.—If attention to diet, the gentle sweating twice a week, the alkaline bathing (bathing with sal-soda or weak lye in the water), the friction to the surface, night and morning, with the cayenne tincture; and the use of sirup, cordial, or tincture, as any one shall choose to take, does not, within a reasonable time, or pretty soon, begin to give a very perceptible relief, it will be well to add to them the principle of *Inhalation* (to breathe into the lungs) of such remedies as would have a tendency to soothe and heal, or cause to

throw off offending matter, or stimulate to healthy action, were they applied to an outward ulcer, or inflammation. If poultices, liniments, salves, ointments, etc., are good to apply upon the surface, should it not be just as reasonable to suppose that it would be good to apply appropriate medicines directly to the lungs, or throat, or deep bronchial tubes, as can easily be done by Inhalation? It is certainly reasonable, it has, and may again prove a valuable assistant! And they may be used in connection with the other Treatment, and especially should be, if the stomach will not tolerate any of the cough medicines. Any of these articles may be Inhaled that are used in the cough remedies, except, for Inhalation it is better without the sugar, which rather prevents than helps to atomize the medicines.

In the commencement of lung or throat diseases, the *Alterative Inhalent* would be the one to use; but if the phlegm becomes more viscid (sticky and glutinous) and the cough is dry and hard, then use the *expectorant*, and if soreness, or pain, accompany, use the *soothing and febrifuge*, and if expectoration is too free, at any time, use the *astringents*, etc., according to instructions under the head of INHALATION.

It is claimed that in the advanced stages of Consumption, i. e., after fever has set in, that the rapid breathing causes too great an oxydation, or heat of the blood, literally burning up the patient with oxygen, to prevent which nitrogenized substances, as *milk, cod-liver oil, spirits, etc.*, are recommended, the *nitrogen* of these substances consuming the oxygen, relieving the fever. Milk should be used as freely as the stomach will allow, without becoming acid or sour; and if milk of full strength can not be freely used, it may be made into milk porridge by putting half as much water with it, as of milk, and thickening a little only, with flour stirred into cold water first, then into the boiling milk, with a bit of salt also. It may be drank as a beverage, and it may be eaten with bread, for breakfast and supper, having the nicest tender meats for dinner, or if very feeble, beef-tea for dinner, with such other food as suitably correspond with the meats, or beef-tea; but never eat an over-full meal. Should this ever occur, or should pain, or heat arise in the stomach, or gas, from over-eating, or from over-exercise after eating, take a spoonful or two of such spirits as may be at hand, or best agrees with the patient, which will soon work relief by stimulating the stomach to work off its over-loaded condition. Exercise in the open air, is as important as the diet, if not more so.

Liebig claims that the spirit circulates free, in the blood and overcomes, or devours the oxygen. Others claim that ague districts have a similar effect upon Consumptive patients, or rather, that in those districts the air has a larger proportion of hydrogen, carbon, and sulphur, all of which have an affinity for the oxygen and consume it in the system; for it is claimed that but few, if any, in districts of ague and intermittent fevers, ever have the Consumption. And it is very probable that in the high latitude of Minnesota, where the air is light and pure, that there is less oxygen than in the medium districts, or more Northern of the Middle States, where Consumption is so prevalent. Holland and Egypt are low flat countries, and are celebrated as being free from Consumption. Even the old Roman physicians used to send this class of patients to Egypt to recruit their health. "Cicero, the celebrated orator, who, in his youth, was threatened with Consumption, as the hollow temples and sharp features of his remaining bust abundantly testify, traveled into Egypt for the recovery of his

health." And he undoubtedly *regained* it, or there would have been no busts to testify as to the fact.

Travel.—Patients that can not be relieved, or cured by the Treatment, hints and suggestions, above given, have not alternative left, but to linger on, and fall victims to the disease, or to go to "more genial climes." From my knowledge of the successful recovery of so many Consumptive patients by a residence in Minnesota, I most cheerfully, and anxiously recommend the Northern and Western part of that State as the place for Consumptives. My residence there, a little short of a year, completely cured one of my lungs which had become very weak and painful from a severe typhoid pneumonia, of the Spring before.

There was a gentleman living at Sauk Rapids, during my residence there, who came into the State, from Maine, 10 years before, with his lungs so bad that hemorrhage had taken place several times before he left home, and he was in so critical a condition of health, on this account, that a brother was sent with him, lest there might be a fatal termination on the way. They rented a few acres of land, a few miles below St. Paul, and he done what little he could the first season. The second season they rented a farm and worked it, successfully; then the brother went back, but he worked the place another year, and went home well. But after remaining in Maine a year, liking Minnesota the best, he went back, and when I knew him he was as hale and healthy a young man as I would ever wish to know. And while there, I learned of so many other cases who were also cured by that climate that it is as well established fact, in my mind, as anything can be in this world; that North-Western Minnesota is the place for Consumptives. But let me say, whoever goes there for that reason, do not put off the going until you are just ready to die at home. If you go, go early in the disease, and you are almost positively certain of being materially benefited, if not absolutely cured.

The Northern Pacific Railroad is now hastening its way through that State, and on to Pugets Sound, and probably, along the whole line of that road the climate will be found equally beneficial to the health of this class of invalids. The only drawback that would appear to me to be in the case, is the extreme cold of the Winters, yet the air is so dry and pure, they claim, there, that this is not a drawback, but a help. Those who are able, in the matter of money, might make this State their Summer home, and Florida or Texas for Winter.

I will mention only one more case. I had a gentleman with me, as editor, for some years, but whose Consumptive tendencies increased upon him so much, in the Fall of 1868, he made up his mind he would go to Minnesota, notwithstanding I told him it would be a dangerous undertaking, he might even die on the road. He was a walking-skeleton—cough, cough, cough, was the constant sound in his room, in the office, for he had ambition and would not give up his labors. He left in December, I think, and I expected to hear of his death on the road; but he went to Sauk Rapids and spent the Winter there with an acquaintance, and in the Spring, he went to St. Paul, and got a situation on one of the papers, sometimes setting type and sometimes reporting local items, at which he proved so successful, he was retained in that line. I heard from him only a month or two ago, about three years after he left this city, Ann Arbor, Michigan, still at his

work. I look upon this case to be as near to a *miracle*, as anything that ever came under my notice. I will add, however, that his *digestive* powers were excellent, and he was a great lover of oysters—raw oysters—which, no doubt greatly assisted the recuperative (tending to recovery) powers of his system.

After writing the above, in May, 1872, I thought I might obtain additional information as to the correctness of the opinions that Minnesota was the place for Consumptives, by addressing this gentleman, asking his judgment after over 3 years residence there, to which he replied, that he "thought it had been somewhat over-estimated; yet, he said that although he had considerable cough still, he was able to attend to his duties as local editor on the *St. Paul Dispatch*; and that during the past severe Winter, he had reported the proceedings of the Legislature during the session, over 90 days, *without the loss of a day*, and, if it was not for his cough, he should feel very comfortable." Then I heard no more from him until the present month, October, when a letter coming from a friend there, says: "Allan Campbell died here, to-day,"—thus showing that although this gentleman went there in a condition of health, making it absolutely dangerous for him to be on the road, and so bad that none of his acquaintances considered it possible for him to live but a very short time, yet through the benefits of that pure atmosphere, he lived, and labored, nearly four years, which, more than anything else, confirms all of my former opinions in favor of Minnesota as the place for Consumptives, the only drawback being the severity of the Winters, making it necessary to use great care during the Winter season.

The *Dispatch* of Oct. 9th, comes to us with the following so just a tribute to the worth of Mr. Campbell, the gentleman referred to, and which so fully corroborates our statements in the case, and, withal, is so short, that notwithstanding it is not customary to give such notices in Books of this character, yet, all things considered, I deem it perfectly proper, thus to honor the man by which means, I also confirm previous positions laid down upon this subject. The *Dispatch* says:

"Mr. Allan Campbell, for nearly three years and a half editorially connected with the *Dispatch*, died at his residence this morning of Consumption, at the early age of 33 years. In January, 1869, he came to Minnesota for his health, spending the first few months at Sauk Rapids. The following April he came to St. Paul and was employed upon the *Dispatch* up to the 6th of last August, when his disease became so far advanced that he was obliged to abandon work, and steadily failed until the final end. He died easily and peacefully, looking at the dread destroyer so bravely and calmly that he some days ago specified details for his own funeral.

"Mr. Campbell was a native of Cleveland, Ohio, and the greater portion of his life was spent in that city. He was editorially connected with both the *Cleveland Plain Dealer* and *Leader*, retiring from the position of night editor on the latter journal October, 1865, in order to assume the editorial management and control of the *Ann Arbor (Mich.) Courier*. This, and indeed all his other positions, he filled with great acceptability and only relinquished it to come to Minnesota on account of failing health.

"His death is not only a loss to his immediate friends but also to the public, for we can say with no disparagement to others, that, but for infirm health, he would have risen to the very front rank of jour-

nalists in the North-west. He more than gave satisfaction to his employers and proved himself a competent, able, and versatile journalist. His warmest friends were those who knew him best and could appreciate his worth. In fact, he won friends wherever he made acquaintances, and we doubt whether any resident of the city, in the same length of time, attached more warm friends to him than did the subject of this brief sketch.

"A wife and daughter survive him and his brother and sister from Iowa, his only remaining immediate relatives were enabled to be present and make his closing hours as comfortable as human means could devise." (Minnesota, no doubt, added 3½ yrs. to his life.—AUTHOR.)

COUGHS AND COLDS.—Everybody is liable to "take Cold," and but few persons avoid them altogether, although the weak and debilitated, and those whose employments lead them from warm to cold situations, or rooms, are much more liable to them than others.

Cause.—The Cause of Coughs are neglect of Colds, brought on by whatever checks perspiration, and thereby turns in upon the lungs, or throat, what should have been carried off by the skin.

Symptoms.—The Symptoms of a Cold, the neglect of which is pretty sure to leave a Cough, are pain, or weight, or both, in the head, tightness of the chest, difficult breathing, fullness and stuffing of the nose, watery, or slightly inflamed eyes, sore throat, finally Cough, cold shiverings, and flashes of heat; and also, if neglected, an increase of mucus from the nose, throat and lungs, from the beginning of an inflammation upon the membranes of those parts; and, in severe cases, perhaps considerable fever.

Treatment.—For the proper Treatment, see CATARRH FROM RECENT COLDS, TO CURE, remembering, that if a Cold is neglected, or improperly Treated, a Cough is the certain result, and if that is neglected, Consumption, sooner or later, is pretty certainly the consequence.

If there are any who can not, or will not go into the sweating operation, let a full dose of physic be taken at bed-time, and a mixture of good vinegar, butter, and honey, with a little black pepper, or ginger, be taken 3 or 4 times during the evening, as hot as it can be borne, at the same time, during the evening let the feet be toasted by the fire for an hour, at least, before going to bed, then hot bricks, or a hot flat-iron to the feet, which together, will excite more or less perspiration, and perhaps prevent a Cough; but if it does not and a Cough comes on, the following sirup should be taken:

2. Cough Elixir.—Oil of anise, and oil of sweet almonds, and balsam of fir, of each, ½ oz.; laudanum, and tinctures of ipecac, digitalis and lobelia, and tincture of balsam of Peru, of each, 1 oz.; tincture of blood-root, and tincture of balsam of Tolu, of each, 2 ozs.; best alcohol, 2 ozs.; strained honey, ½ lb. Put the alcohol into a suitable sized bottle and add the oils and fir, and shake well to cut the fir, then add the tinctures and honey, and shake again to cut and mix the honey.

Dose.—A tea-spoonful 3 to 6 times daily according to the severity and tightness of the Cough. It will be found an exceedingly valuable preparation. It should be kept in every family. But, should these Coughs become firmly seated, from neglect, or the frequent occurrence of Cold, the treatment more properly come under the head of Consumption, but, even, in that disease, this sirup would be found valuable. Avoid full meals, in these Colds. Rather let broths, gruels, or

milk porridge with light bread, form the diet for a few meals, at least.

The following is from Dr. Hall's *Medical Journal*, and fully corroborates my ideas, as to the impropriety of full meals after a Cold has been taken, and although I go in for *active* perspiration, there are those who may choose the milder way as recommended by Dr. Hall, I will give his explanation of how to *treat a Cold*, which if well treated will save the trouble of having to treat a Cough. He says:

"A bad Cold, like measles and mumps, or other similar ailments, will run its course, about 10 days, in spite of what may be done for it, unless remedial means are employed within 48 hours from its inception (commencement). Many a useful life may be spared to be increasingly useful, by cutting a Cold short off, in the following safe and simple manner: On the *first* day of taking a Cold, there is a very unpleasant sensation of chilliness. The moment you observe this go to your room and stay there; keep it at such a temperature as will *entirely* prevent this chilly feeling, even if it requires 100° of Fah. In addition, put your feet in water half-leg deep, as hot as you can bear it, adding hotter water, from time to time for 15 minutes" (I would say 20 to 30), "so that when you take your feet out, the water shall be hotter than when you put them in; then dry them thoroughly, by wiping, and put on warm, thick woolen stockings, even if it be Summer, when Colds are the most dangerous (I do not agree with this, only that, in Summer, persons are less likely to attend to them), and, for 24 hours, eat *not an atom* of food, but drink as largely as you desire of any warm teas, and at the end of that time, if not sooner, the Cold will be effectually broken without any medicine whatever."

If I had not the alcohol and spirit lamp, I should certainly take this method; and even with the spirit lamp, the feet being put into hot water, makes a quicker, and more effectual plan of introducing perspiration.

Some persons think that drinking cold water is better than hot teas. It will do very well with persons of a robust, or healthy constitution; but persons of a weak and debilitated habit of body had better use the hot teas, or hot punches not sufficiently strong to give head-ache—ginger tea, is excellent.

CROUP.—Croup is an acute inflammation of the upper air-passages leading into the lungs, technically called the *larynx*, usually occurring with children, but adults, and sometimes those that are quite old have it. It is usually divided into three classes,—*mucous*, *pseudomembraneous* (with false membrane), and *spasmodic*, but so far as treatment is concerned, it is about the same, notwithstanding the finely drawn dividing lines.

Cause.—As the disease is more prevalent in Winter and Spring, than at any other periods of the year, and is attended with more or less inflammation, its Cause is set down, like other inflammatory diseases, to "taking Cold," or in checking perspiration, which fact of itself should be definitely understood to point out the remedy—restore a healthy perspiration.

Symptoms.—Sometimes the first knowledge, of Croup will be to have a child wake up in the night, with difficult breathing, and a whistling, or hoarse, ringing cough, with mucus in the throat to give a fear of suffocation. If the child is old enough to speak, the voice will partake of the whistling, or piping sound of the cough; and there may

be a spasmodic closure of the epiglottis (cap-like valve that covers the air-passage) so that great efforts, or catches are made for breath. But, in other cases, these symptoms come on more gradually, being worse at night, yet not so hard as to cause very much alarm; but the danger is only so much the greater, the enemy is, as the saying is, "laying low" that he may make a *fatal* blow, which, in fact he too often does; For this slowly accumulating disease is certainly the *worst* form of Croup—having the *false* membrane, which, if not relieved early in the disease, will finally choke the patient to death, probably, within 4 or 5 days.

Treatment.—As indicated above, the Treatment is to relax the system to relieve spasm, if any exist, and to restore or establish perspiration. And for this purpose there is no plan so quick as the *spirit lamp*, or hot air bath, provided the child is large enough to sit in a chair and be covered with a blanket, the same as for grown persons. At the same time let a tea-spoonful of the *acetic emetic tincture*, in the same amount of simple sirup, or molasses, be given, if the child is 4 or 5 years old, and if of other ages, in proportion, repeating in 30 or 40 minutes, once, or twice, or until the mucus is sufficiently loose to make it appear necessary to throw it off; then, repeat every 15 minutes until vomiting takes place, which will relieve the urgent symptoms, and perhaps entirely relieve the case. After the child has been in the hot-air bath for 15 or 20 minutes and sweating has been well established, remove to the bed, and with hot bricks or irons to the feet and sides, and cloths wrung out of hot vinegar and water, equal parts, wrapped around the throat, let the perspiration be kept up slightly, for an hour or two, renewing the vinegar and water cloths to the throat as fast as they become cool; and if the child is old enough to do it, it should also breathe the vapor of vinegar and water 5 minutes at a time every 15 or 20 minutes, until relieved. If the child is too young to take the hot-air bath, a hot foot-bath with mustard in it must be adopted, and sponging the surface, the child being under cover of blankets, then heat, by bricks, or bottles of hot water, or something of this kind, to get up the same condition—perspiration. The sponging may be from the hot vinegar and water, out of which the cloths for the neck are wrung.

In that kind of Croup which approaches more slowly, the *pseudo-membraneous*, the cloths must be kept up around the neck, and the other means also used, moderately, to keep the system relaxed, just keeping up a little nausea, until the false membrane has become so loose that an emetic may throw it off, then give the emetic in full dose, and repeat, sufficiently often to vomit the patient. And if danger still continues, the neck and chest may be bathed thoroughly with the *pain-killer liniment*, in connection with the other Treatment; or, the following *soap-liniment* will be found valuable:

1. **Soap Liniment.**—Sweet oil, 2 ozs.; aqua ammonia, 1 oz.; spirits of turpentine, $\frac{1}{2}$ oz.; spirits of camphor, $\frac{1}{2}$ oz. Mix. This forms a white, or creamy-like Soap, sufficiently soft to be shaken out of the bottle into the hand, and yet sufficiently hard not to run, so it can be carried right to the spot desired, and rubbed in freely, and covered with flannel until a little irritation, as from a mustard plaster can take its place. It will be found valuable, in rheumatism, or any swelling, or tumor requiring external excitation.

In this latter class of cases, Prof. Scudder uses the *acetic* (vinegar) tinctures of lobelia and blood-root, molasses, of each, 1 oz.; and finely pulverized chlorate of potash, 1 dr., mixed. The dose being, for a child of 2 or 3 years old, 1 tea-spoonful every 5 or 10 minutes, until nausea is induced, then not so often. No fluid is to be given with this, that it may have the desired effect upon the throat; but not inducing vomiting until the looseness indicates that there is something to throw from the throat. If the pulse is high, he gives the proper dose of *veratrum*, the tincture, and he claims there are no other agents of equal value, and that no preparations of the *emetic* articles should be used, "except the *acetic* tinctures."

Dr. Beach tells us of a Mrs. Martin, of New York City, whose child was subject to Croup, who bathed the throat and chest with a stimulating liniment, at the time it came on in the night, and gave a dose of physic, which in half an hour, had always relieved.

I now come to speak of *Inhalation*, which for several years past, both in Europe and America has been extensively used and experimented with, in Croup until it has become a well established fact, that the Inhalation of the vapor of hot water by itself; and also having lime combined with it; and also sulphuric ether has singly, or in combination, or alternating first one then the other, has saved many patients; but, to show the great loss of life by this disease, I will mention that in the city of Philadelphia alone, where they make Doctors every year by the hundreds, Dr. Warren informs us that in 10 years, no less than 1,150 children died of Croup; and in England, no less than 4,336 died of the same disease, in one year. It might be expected then, that as the *false-membranous* Croup, is so frequently fatal, every possible method that would give a reasonable hope of success would be tried, and *Inhalation* is among them.

In a work on *Inhalation* by Prof. Scudder, he introduces the subject of Croup, in the following words: "This means of treatment is employed with decided advantage in Croup, in fact, in some cases, I place much reliance upon it. Spasmodic and the milder forms of the mucous Croup is readily treated with the common means, though even here, the vapor of water, or of water and vinegar will be found of assistance.

"For 10 years past I have never treated a severe case of mucus, or membranous Croup, without making Inhalations of vapor an important means. It allays the irritation and produces relaxation of the intrinsic (inner) muscles of the larynx" (upper part of the trachea, or "wind-pipe, embracing the organs of voice), and this lessens the difficulty of breathing" (and he might have added, *and speaking*). "And increasing secretion, it promotes expectoration in the mucous variety, and lessens the pseudo (false) membranes, in the other. An infusion of *hops*, of *camomile*, or *tansy*, acidulated with vinegar, may be employed instead of water."

2. The lime-water should be used of full strength, $\frac{1}{2}$ oz. of stone lime to distilled, or pure water, 1 pt. It should be Inhaled for 15 minutes, at least, and repeated every hour at first, then every 2 or 3 hours as the case demands.

European experiments have shown that the *false* membrane will dissolve in 15 minutes by being placed in lime-water.

When there is any trouble in getting a free Inhalation of the lime-water by the ordinary *Inhaler*, let a small piece of stone lime be

placed in a saucer, or some suitable dish, and a little hot water upon it, throw a blanket over the head of the child and hold the dish under the blanket, so the fumes, or steam must be breathed by the child.

Many cases are reported, of success in the use of the lime-water; but I will mention one case only, reported by Dr. A. Geiger, of Dayton, O., to the *Medical and Surgical Reporter*, of Philadelphia, as found in Cohen's *Therapeutics and Practice of Inhalation*. After reading the various reports of successful cases, Dr. Geiger continues: "I determined to try the effects of the lime in the next case of diphtheria, or pseudo-membranous Croup, occurring in practice. The first case that presented itself was one of Croup, in a boy about 4 years of age, son of Irish parents, residing some 2 miles from the city. The boy had already been sick 2 days before my visit. When called, I ordered the father to take out with him, some unslacked lime, which he did. Upon my arrival at the house, I found the patient sitting up in bed; severe and distressing dyspnea" (difficult breathing); the face and body covered with perspiration from his efforts to get his breath. The usual harsh, dry Cough, the symptoms all indicating the *last stages* of pseudo-membranous Croup, I determined to try *alone* the effects of the lime, as I saw no hope in any other treatment. But in what way could I bring it in contact with the membranous formation to dissolve it? I hit upon the following expedient: I placed some unslacked lime in a saucer, and then, after throwing a cloth over his head, held the saucer under, so that he was compelled to breathe the fumes arising from the lime in the process of slacking. I retained it for a few minutes, and then removed it. The breathing was some easier, and directly he expectorated" (raised) "a large quantity of tough mucus and phlegm, and was very much relieved. In this process, the steam arising from the lime in the process of slacking, contains, in it, particles of lime which are thus, by Inhalation, brought in contact with the membrane in the wind-pipe. I ordered lime-water and milk to be used internally, and the Inhalations to be repeated in the same way, whenever the symptoms of suffocation were severe, and that the father should report to me in the morning, the boy's condition.

"He came in, the following morning, and said 'he was much better; that the night before, after again Inhaling the fumes of the lime, he had vomited up a lot of tough stuff, and got better right away.' I prescribed a *cathartic* to be given him, and the fumes of the lime if he choked up again. I saw the patient no more. The father reported, from day to day, that he was getting better, and finally that he could 'eat as much as ever.'"

So many other cases are reported, of success, both in Croup and Diphtheria, that no farther doubt remains as to the propriety of using the *lime Inhalations*.

In places where the lime can not be obtained, the hot vinegar and water Inhalations should not be neglected, as often as the difficult breathing seem to demand it; and if there is any difficulty in having the child use the *Inhaler*, it can be done by covering the head as in the case with the lime, by covering the head with a blanket, and holding a cup of hot water and vinegar under it and dropping into the dish, from time to time, a small hot stone which will throw off a steam, or vapor, sufficient to answer every purpose, or the breathing may be done through a cup-shaped sponge which has been dipped

into the hot mixture and the most of the fluid squeezed out, cooling the side touching the face by touching it to cold water, or by a ring of cloth, around the mouth and over the nose, so that all the breath comes through the hot sponge.

3. Sulphuric Ether has also been Inhaled, in Croup, with very considerable satisfaction. A tea-spoonful might be used with the hot water, a gill, as under the directions for *inhaling*, and $\frac{1}{2}$ tea-spoonful has also been given internally, at the same time. An ethereal solution, or tincture of balsam, made with 1 dr. of the balsam, to 1 oz. of sulphuric ether, in the same quantity, 1 tea-spoonful, has also been used successfully. Of course, any of these Inhalations must be repeated as often as the breathing is very difficult.

4. Alum Emetics, or alum in connection with lobelia, has been used in many cases where other emetics were not at hand. Half a tea-spoonful to a tea-spoonful, according to the age of the child, of pulverized alum in 3 or 4 table-spoonfuls of water may be repeated every 15 or 20 minutes until vomiting takes place. With care and judgment, all can be done with the foregoing instructions, that is known upon the subject at the present day, except as found in the Miscellaneous Receipts. Almost every old lady has got some plan of treating Croup, which to her, is better than any other way, or anything else. All that I would say farther upon the subject, is this, let every head of a family where there are children liable to it, fully consider what plan they will pursue, according to their best judgment, from the knowledge they have, and have, *on hand, ready for use*, what they purpose to use in case the disease makes its appearance; for it is no time to read up and consider after the time has come to act, then no time is to be lost, whatever you do, *should be done quickly*.

CARBUNCLE.—The subject of Carbuncle was over-looked in its proper alphabetical place, yet the subject is of so considerable importance, I have deemed it best to put it in here, rather than among the Miscellaneous Receipts.

Carbuncle is much like a boil; but it is larger, and so much more severe and intense in its inflammation and pain, that they quite often prove fatal under ordinary treatment. Although the inflammation and swelling are severe, they do not rise up pointed, like a boil; but spread more over the surface, covering a space from 2 to 3 inches to that, sometimes, of the top of a quart bowl. They most frequently occur upon the neck, or shoulders, or other portions of the back, etc. They go through the same process of development as a boil, terminating the same, if they terminate favorably, but with a much larger core, or in fact, most frequently with several cores. They seldom occur in persons under middle age, or at least, not before adult age. Upon the head, or neck, they are the most dangerous.

Cause.—The Cause is believed to be debility, or a breaking down of the constitution.

Symptoms.—Extensive swelling of the cellular tissue immediately under the skin, with a burning, and smarting pain, of a livid, or bluish purple color, having a tendency to gangrene, or mortification, the matter exuding being often of an acrid, or corroding, and fetid character.

Treatment.—The Treatment is almost as varied as the practitioners. Some poultice at once, and some scarify, or cut down upon them with a cross-cut, laying them open to aid the discharge, or oozing out

of the poisonous matter by means of poulticing. Others apply caustics as soon as there are any openings.

In their commencement, if the spirits of turpentine saturated (made as strong as can be with salt) is kept upon the place by means of wetting flannel cloths folded 3 or 4 thicknesses, it may scatter it; then constitutional Treatment would be required to carry off the offending matter from the system, such as cathartics, tonics, diuretics, etc. But if it is not scattered, then poulticing with flax-seed meal, and slippery elm bark, or with smartweed, and if a tendency to gangrene, yeast should be mixed with any poultice used; and an active cathartic given, and repeated sufficiently often to keep the bowels open. And if it continues long, to reduce the patient's strength, wine, or other stimulants, with beef-tea, or other nourishing food must be given to sustain them.

Dr. Gunn has recommended, for an occasional use in place of the fresh poultices, the following:

2. "Spirits of turpentine, 2 table-spoonfuls; the yolk of an egg; 1 tea-spoonful of pulverized gum camphor, with sufficient wheat flour to form into a paste, on a bit of muslin, or oiled silk."

Pyroligneous acid (an acid saved, or made from charring wood, either in a coal-pit, or by burning wood in tight cast-iron cylinders made for the purpose, on the same principle that our common gas, in cities, is made from, thus, burning coal), and the tincture of myrrh, upon an elm and yeast poultice, has been used to correct the tendency to mortification, or gangrene. CARBOLIC ACID, which see, would, however, take its place now.

Caustic potash, or nitrate of silver has been considerably used, also, for the same purpose, not as a poultice, but as an actual caustic, by putting the stick into the orifices for a moment.

3. But, in very bad cases, Prof. Scudder has introduced the *eclectic*, and more satisfactory way—more satisfactory because more successful; and I can not better introduce his plan, than to give a case he reports, editorially, in the *Eclectic Medical Journal*. He was called to a case of a man at 70 years of age, who had been suffering for 4 days with a Carbuncle on the back of his neck. The physician had been using sulphate of zinc, 2 drs. to water, 1 pt. as a cooling lotion, applied by wetting cloths in it and laying upon, changing, etc. Prof. Scudder says:

"On examination, find the neck very much swollen from the occipital knob" (the prominence at the back part of head, which is called occiput, from the Latin, *caput*, the head) "to the first dorsal vertebra" (first vertebra of the back) "and from ear to ear, intensely red, hot, and tender, except a spot as large as a half dollar, which shows the peculiar suppuration of Carbuncle. Pulse full, 110, bowels constipated, skin dry, urine high colored, tongue contracted, dry, and covered with a very thick grayish-white fur. Very restless, has not slept for 3 days.

"Prescribed—Take tinct. veratrum, viride, $\frac{1}{2}$ dr.; water, 4 ozs.; a tea-spoonful every hour. After the first day, alternately with the veratrum; tinct. nux vomica, 20 drops; tinct. pulsatilla, 20 drops; water, 4 ozs. By the third day the pulse was down to 70, skin soft, and moist, tongue moist and inclined to clean. Ordered hot milk from the commencement, with some stimulants, can now take it with

some appetite. Ordered now a pill of opium, 1 gr.; capsicum, $\frac{1}{2}$ gr., as often as required to procure good sleep.

"Locally, pencil the part that is red with strong tincture of veratrum, viride; apply to the centre where suppuration has commenced; the permanganate of potash, $\frac{1}{4}$ dr.; water, 4 ozs. The redness and swelling rapidly disappeared under the use of the veratrum, and by the sixth day, the disease was confined to the suppurating centre—3 inches in diameter. No pain.

"Thus a case which was regarded, by those who saw it, as almost necessarily fatal, was brought to a successful termination by most simple means—without the use of the knife, or escharotics" (caustics).

This being the success of the present treatment, people must judge for themselves which plan to follow.

I will only add, in conclusion, a little circumstance which always comes to my mind when I see, or hear a Carbuncle spoken of:

When I was about 25 years of age, a gentleman of my acquaintance engaged in the iron foundry business solicited me to enter into a partnership with him, which I was about to do. But before any articles of agreement had been made out, he was taken with this disease, on the shoulder, and in spite of all the doctors could do, he died. I had not read medicine then, and I can not say, if I had, that the termination would have been different. I mention it more to show the *dangerous* character of the disease, than any thing else; it cast much gloom, however, over the neighborhood, as well as upon my own feelings, as he was a man much respected, and but recently inarried—sometimes a very little thing changes a man's course, for life, at other times, the circumstance may be more serious, yet, it only makes a similar change in one's purposes.

C. MISCELLANEOUS RECEIPTS. C.

CAKES.—In introducing a subject of so much importance to a good housekeeper, and one that will be referred to so often as that of making Cakes, permit me, first, to say, for health's sake, and especially that of children, the frequent use of very rich Cake is not to be allowed. Then, let some of the plainest and most simple forms be adopted, changing from one to another.

1. **General Directions—First.**—Without a good oven—one that can be heat of an even heat throughout, and especially the bottom—but little satisfaction will be experienced. This will hold good in baking bread, also.

Second.—Soda, or saleratus should always be mashed and dissolved before putting into the Cake mixture; but, very many persons, certainly so in cities, are now in the habit of using baking powders in their place, which should always be put into the flour and sifted in, together, at the end of the operation.

†King, in his American Dispensary, says of this article. "It has likewise been found a very efficacious local application in phlegmonous erysipelas" (i. e., of an inflammatory character, from phlegmon, an inflammation beneath the skin, of a burning character), "hospital gangrene, and Carbuncle." He says, of it, also, that "In weak solutions, it is a stimulant and disinfectant. It has proved very useful in the treatment of various offensive and infectious" (catching) "diseases, as in foul, indolent, and gangrenous ulcers, or abscesses, leucorrhœa, otorrhœa" (inflammation of the ear, with ulceration), "cancerous ulcers, osena, etc." (an ulceration of the nose, or nostril, of a fetid character: "destroying the fetid odor in these cases, checking exuberant granulations" (superfluous, or over abundant. What is commonly called "proud-flesh"), inducing a healthy appearance of the ulcerated surfaces."

Third.—Eggs should always be well beaten with the sugar, butter, milk, flavoring extract, or spices, fruits, etc., unless otherwise directed in the Receipt; and as a general thing it is best to have the butter, lard, or drippings, (that which falls from meat in roasting, but, of late, is applied to all gravies in which meat is fried) melted, as they give less trouble in mixing. In cold weather, however, the milk, butter, sugar, etc., may be put in a basin, or pan, and set on the stove to warm them together, then beat to a cream before mixing in the other articles. Eight eggs *well* beaten are equal to 10, *not* well beaten, for giving lightness to Cake. At the end of the operation put the baking powder into so much of the flour as you know will be required, and sift it in; then use more, if needed to obtain the desired consistence.

Lastly.—Bake in a moderately hot oven, to allow the Cake to rise before the top is browned, or set, unless a "quick oven" is called for. Cake having much fruit in them, especially chopped fruit, are liable to stick to the tins, unless a buttered paper is put in first.

The careful observation of these rules will save trouble and annoyance in Cake-making.

2. Tea Cake, or Cup Cake.—Sugar, $1\frac{1}{2}$ cups; butter, $\frac{1}{2}$ cup (in all cases the usual sized teacup is meant); sour milk, 1 cup; eggs, 3; soda, 1 tea-spoonful; extract of vanilla, lemon, or nutmeg, as preferred, 1 tea-spoonful.

Dip common Cake dishes about half full, and place in the oven at once, as mentioned under the GENERAL DIRECTIONS, above. If done early in the afternoon, they will be ready for "tea."

3. Another.—Butter, $\frac{1}{2}$ cup; sugar, 1 cup; flour, $1\frac{1}{2}$ cups; eggs, 2; sweet milk, $\frac{1}{2}$ cup; soda, $\frac{1}{2}$ tea-spoonful; cream of tartar, 1 tea-spoonful.

In any case of making Cake with sweet milk, or water, calling for soda, and cream of tartar, as in this one, baking powders, 1 large, or rounding tea-spoonful may take its place, with the same success; but with sour milk, a little soda must first be mixed with it to neutralize the acid, then the baking powder will do equally well.

4. Lady Cake.—Flour and sugar, of each, 1 lb.; butter, $\frac{1}{2}$ lb.; whites of 15 eggs; baking powder, 6 tea-spoonfuls.

Thoroughly mix the flour and baking powder, by sifting; then cream the flour with the butter. Now, having beaten the eggs, and thoroughly mixed them with the sugar, mix all, and bake in a moderate oven.

5. Honey Cake.—Melt 1 cup of butter, and mix it with honey, 2 cups; ginger, 1 table-spoonful; 1 nutmeg, or a grated rind of 1 lemon, and a little flour. Dissolve a heaping tea-spoonful of saleratus in a cup of water, and add to the mixture. Then add flour till stiff enough to roll out; and bake the same as ginger bread.

6. Wedding Cake.—Flour, and butter, of each, 4 lbs.; sugar, 8 lbs.; citron, 1 lb.; English currants, 4 lbs.; raisins, 3 lbs.; nutmeg, 1 oz.; lemons, 4; cream, 1 pt.; eggs, 30; saleratus, $\frac{1}{2}$ table-spoonful.

Work the butter and sugar to a cream, add the beaten eggs, grated nutmeg, prepared fruit, chopped lemons, cream, and saleratus, then the sifted flour. Bake in large, or small pans, as preferred.

7. Mrs. Pride's Wedding Cake.—Butter, 1 lb.; sugar, $1\frac{1}{2}$ lbs.; flour, 1 lb.; eggs, 12; raisins, seeded, chopped, and floured, 3 lbs.; English currants, washed, dried, picked, and floured, 2 lbs.; citron,

cut thin and small, 1 lb.; Maderia wine, 1 glass; brandy, 2 wine-glassfuls; rose-water, 1 wine-glassful; grated nutmegs, 2; finely ground cinnamon, 2 tea-spoonfuls; mace and cloves, finely ground, of each, 1 tea-spoonful; currant jelly, well beaten, a little less than 1 pt.

Follow GENERAL DIRECTIONS, No. 2, above. Bake about 4 hours in a moderate oven.

Mrs. Pride reported this to the *Hearth and Home*, except that she used 2 glasses of rose-water, and 2 of well-water without the wine, or brandy; but some one else has improved its *taste* and *keeping* qualities by their addition. I expect, however, that the old lady would disown the Cake now, for she is reported as "decidedly a total-abstinence woman, and opposed to brandy, or cider, even in mince pies." But the idea of flouring the chopped fruit, to prevent it from sticking together, enabling it to be the more evenly mixed through the Cake, is certainly good. The Cake is very nice.

8. Patriot Cake.—Flour, sugar, and raisins, of each, 1 lb.; butter, $\frac{1}{2}$ lb.; cream, or rich milk, $\frac{1}{2}$ pt.; wine, and brandy of each, $\frac{1}{2}$ gill.; eggs, 4; soda, 1 tea-spoonful.

9. French Cake.—Eggs, 1 doz. loaf sugar, 1 lb.; peel of 1 lemon; wheat, and rice flour, of each, $\frac{1}{2}$ lb.; sweet almonds, 4 ozs.; bitter almonds, 1 oz.; orange-flower water, 1 table-spoonful.

The yolks and whites of the eggs are to be beaten separately; the sugar is to be pounded and sifted; the lemon peel is to be grated; the wheat flour is to be dried and sifted, and the rice flour is also to be sifted; and the almond, both kinds, are to be thoroughly beaten into a pulpy mass, in a mortar, then the orange-flower water put in with them and thoroughly rubbed together; and then the whole to be mixed, stirring as the different ingredients are put in. The pan to be papered, with white paper that has been buttered, and baked for 1 hour.

Some may think this a large amount of labor for a Cake. It is well known that the French people are celebrated for getting up very nice articles of food. Then, if we would have their nice dishes, we must take the same labor that they do, or we can not have them. Let every one suit *themselves*, my place is to suit *all*—something, in other words, for each.

10. French Loaf Cake.—Sugar, 1 lb.; butter, $\frac{1}{2}$ lb.; flour, $\frac{1}{2}$ lb.; eggs, 8; milk, 2 table-spoonfuls; soda, $\frac{1}{2}$ tea-spoonful; 1 good sized lemon, grated and chopped.

Mix the sugar and butter, then the yolks, and after, the whites; then the lemon and flour, and lastly, the soda and the milk, having been mixed, are put in.

11. Hartford Loaf Cake.—Flour, 2 $\frac{1}{2}$ lbs.; sugar, 1 $\frac{1}{2}$ lbs.; butter, 1 $\frac{1}{2}$ lbs.; nutmegs, 2 or 3; mace, $\frac{1}{2}$ oz.; eggs, 2; milk, 1 pt.; raisins, 1 lb.; distiller's, or other good yeast, 1 gill.; brandy, wine, and other fruit if desired, to taste.

Rub the butter into the flour, at night, and have the milk warm, and add the yeast, and mix in thoroughly, and set to rise. In the morning, when light, add the other articles, heat thoroughly, and put in pans, and after an hour, bake.

12. Our Family's Raised Cake.—When making bread, in the morning, the hop-yeast, or other sponge-risings being light and nice, take out 1 cupful, and add sugar, 1 cup; butter, $\frac{1}{2}$ cup; chopped raisins,

1 cup; 1 egg; cinnamon, cloves, or nutmeg, of either, $\frac{1}{2}$ tea-spoonful; soda, 1 tea-spoonful.

Stir as stiffly as you can with a spoon, let rise until light, and bake $\frac{1}{4}$ to 1 hour, according to the heat of the oven. It is very satisfactory, and but little extra labor.

13. Cookies.—Grandmas are always expected to have Cookies ready for the "children," when they call to spend the afternoon, with their mothers; besides this, they are very commonly found on the table, and quite often, not very good, yet they are one of the easiest Cakes made, if you know how.

Take sugar, 2 cups; melted butter, 1 cup; eggs, 2; sour milk, $\frac{1}{2}$ cups; soda, 1 tea-spoonful.

Stir the sugar, butter and eggs to a cream, then put in the milk, and soda. Flour to make *as soft a batter as can be rolled*—herein lies the secret of success.

14. Another.—Butter, 1 cup; sugar, 1 cup; sweet milk, 1 cup; eggs, 2; baking powder, 1 rounding tea-spoonful. Use sufficient flour only to make as soft as you can roll out and cut.

15. Jelly Cake.—Thin cream, sugar, and flour, of each, 1 cup; eggs, 2; saleratus, $\frac{1}{2}$ tea-spoonful, or soda, 1 tea-spoonful (the soda is the most used, of late); extract of lemon, or vanilla, 2 tea-spoonfuls. If too thin, use a little more flour, and if the cream is very sour, it will require a little more saleratus, or soda.

This will be baked in thin Cakes, and laid up with any jelly you choose, between the layers, and frosted, or not, as any one chooses.

16. Lemon Jelly Cake.—Sugar, 1 cup; flour, 1 cup; eggs, 3; melted butter, 1 table-spoonful; soda, 1 tea-spoonful; cream of tartar, 2 tea-spoonfuls; milk, 1 table-spoonful. Bake in 4 Cakes.

In place of jelly, take water, 1 cup; 1 egg; sugar, $\frac{3}{4}$ cup; 1 egg; corn starch, 1 table-spoonful; the juice of 2 lemons; mix thoroughly and put between the Cakes.

17. Orange Jelly Cake.—Flour, 2 cups; sugar, 2 cups; cold water, $\frac{1}{2}$ cup; juice and grated peel of 1 orange; yolks of 5 eggs, and whites of 4; salt, a little; soda $\frac{1}{2}$ tea-spoonful; cream of tartar, 1 tea-spoonful.

Follow GENERAL DIRECTIONS, No. 2, in making. Bake in 4 jelly tins and lay up by taking the white of the egg, saved for that purpose, and beat it well with pounded sugar (pulverized sugar) until stiff; then grate in the peel of another orange, and squeeze in the juice of the same, to put between the layers.

18. Cocoa-nut Variety.—Jelly Cake may be made by beating up the white of eggs and sugar, as you would for frosting, only it does not need quite as much sugar as for frosting, then stir in sufficient of *dessicated* (dried) *cocoa-nut* (kept by most grocers), to make it as thick as it will well spread, putting this between the layers, spreading it thickly, or not, as you wish the taste of the cocoa-nut to appear. It is very nice. The Cake is made the same as No. 15.

19. Cream Variety.—Jelly Cake will be made by first beating 3 eggs to a froth, with sugar, $\frac{1}{2}$ lb., and flour, $\frac{1}{2}$ lb., in which baking powder, 3 tea-spoonfuls have been mixed, by sifting. Baked in thin Cakes as No. 15, and laid up with the following cream:

Cream, or rich milk, 1 qt., sweetened to taste, and thickened with corn starch, 1 table-spoonful, and flavored with extract of lemon, or vanilla, which is to be poured between the layers, in place of the jelly.

or in place of cacao-nut. Thus it will be seen that with a little ingenuity—*genius*—great varieties of Cake, or other things, can be made, and prove very satisfactory.

This, or any of the others may be made to take on a different appearance, occasionally, by beating up the whites of eggs and sugar, as for frosting, and spread over the top layer, and slightly browning in the oven, or by making a complete frost, leaving it without browning. I first saw, and learned how to make this last variety of Cake, while waiting at one of the Chicago depots, for the connection of trains, immediately after the "great fire."

20. Kansas Lunch-on Cake.—Flour, 2 lbs.; powdered sugar, $\frac{1}{2}$ lb.; English currants, mashed and dried, 6 ozs.; citron, 1 oz.; butter, $\frac{1}{2}$ lb.; baking powder, 1 table-spoonful; salt, 1 table-spoonful; eggs, 4; milk sufficient.

Rub the butter into the flour, then the sugar, citron, currants, salt, baking powder, etc., and beat the eggs and mix in with the milk to make the batter not very stiff. Half fill buttered, and flour dusted tins, and bake in rather a quick oven, to a light brown.—*Kansas Herald*.

21. Soft Molasses Ginger-Bread.—Good Molasses, 1 pt.; butter, $\frac{1}{2}$ lb.; soda, 1 table-spoonful; ginger, 1 large table-spoonful, or to suit the taste; flour sufficient.

Melt the butter, and pour into the molasses; mix in the soda until it froths; then stir in the ginger, and flour to make it so stiff as will handle well with a spoon. Bake $\frac{1}{2}$, or $\frac{3}{4}$ hour.

22. Buns, or Sweet Cake.—Flour, 1 qt.; milk, 1 pt.; butter, $\frac{1}{2}$ lb.; eggs, 2; sugar, 1 cup; English currants, $\frac{1}{2}$ cup; yeast, 3, or 4 table-spoonfuls.

Warm the milk, and mix in the yeast, butter, and flour, and set to rise 3, or 4 hours; then mix the beaten eggs, sugar, and fruit into the dough, and let rise again 2 hours. And when light, make into small Buns, or Biscuit, and put them close together, in baking tins, and when light again, brush the tops over with a mixture of milk and molasses, and bake in a quick oven.

23. Another.—New milk, 3 cups; yeast, and sugar, of each, 1 cup; flour enough to make a stiff batter. Rise over night. In the morning, mix 1 cup of butter with another cup of sugar; 1 grated nutmeg; 1 tea-spoonful of saleratus, or $1\frac{1}{2}$ of soda, or 2 of baking powder, and mix in with sufficient more flour to make all as stiff as for bread. Let rise again, then mould, or cut out, and when again light, bake in a quick oven.

24. Indian Griddle Cakes.—Three handfuls of Indian-meal; 1 tea-spoonful of soda; 1 tea-spoonful of salt, 4 of sugar; pour on boiling water, stirring briskly to the thickness of stiff mush; pour on cold milk till it is as thick as gruel; then add sifted flour to the consistency of Griddle Cakes—thick or thin as preferred. They can be varied by the addition of 1, or 2 eggs beaten and added last.

25. Buckwheat Griddle Cakes.—Sift together 1 qt. of buckwheat flour, and 1 tea-cupful of corn-meal. In cool weather make up a moderately thin batter with luke-warm sweet milk; salt to taste. In warm weather it is best to use water—the milk would sour; add $\frac{1}{2}$ a tumbler of good lively hop-yeast, (hop-yeast is best for buckwheat); make it up in a jar (covering closely) at 9 o'clock at night. The next morning beat in 3 eggs; let it set 15 or 20 minutes; just before frying, stir in 1 tea-spoonful of soda, first sprinkling it over the

batter. Soda is unnecessary if the batter is perfectly sweet. Eggs are not essential, but are an improvement. A mixture of 4 parts of buckwheat—2 of Graham, and 1 of Indian—makes a more healthful Cake and more spongy.

26. Another.—There are those who prefer a mixture of wheat flour and meal with their buckwheat flour for Griddle Cakes; then

Take buckwheat flour, 4 cups; wheat flour, 2 cups; corn-meal, 1 cup; salt, 2 tea-spoonfuls; yeast, 1 cup, and sufficient warm water to make a pouring batter; mix, and let rise over night, and bake in the morning. Leave a pint of the batter to set the next lot, and you need not use any more yeast the whole season. Keep the "stock" cool when not wanted. If the batter turns sour, stir in, just before using, a tea-spoonful of baking soda dissolved in cold water.

27. Rye Batter, or Griddle Cakes.—Warm 2 tumblers of sweet milk, containing 1 tea-spoonful of salt; 2 eggs, well beaten; stir into rye-meal, beginning with a pt., and add more, till of proper consistency for dropping upon the griddle; add 1 tea-spoonful of soda, sifted with the meal; 2 tea-spoonfuls of cream of tartar, also. Rye and corn-meal Cakes should be made thin; flour Cakes moderately stiff.

28. Wheat Flour Batter, or Griddle Cakes.—Mix at night, 4 pt. bowlfuls of flour, or half white corn-meal; 1 tea-spoonful of salt; 2½ bowlfuls of tepid-warm milk; ½ tumbler of yeast. In the morning, add 1 egg, well beaten, also add milk if too thick; the Cakes must be spongy.

29. Hominy Cakes.—Boiled hominy, 1 pt., well mashed; ½ pt. of sifted flour; 1 egg; 1 table-spoonful of melted lard, or butter; sweet milk enough to make a rather thin batter; 1 tea-spoonful of soda, sifted with the flour, and 2 of cream of tartar. Drop the batter, small, on a griddle.

30. Muffins.—Milk, 3 pts.; 4 eggs; small tea-cup of yeast; piece of butter, size of an egg, melted in a little milk; 1 tea-spoonful of salt; add sifted flour till as thick as buckwheat batter; 8, or 10 hours' rising; cook either in Muffin rings, or pour directly on the griddle in thin Cakes. Powdered sugar and ground cinnamon served with the Cakes improve them.

31. Muffins, or Griddle Cakes.—Sweet milk, 1 pt.; eggs, 2; butter, the size of an egg; salt, 1 tea-spoonful; baking powder, 1 tea-spoonful; Graham, and common flour, one-half of each to make them as thick as common Cake batter.

Bake in Muffin rings, or without them, upon a hot griddle. Choice and light.

32. Short-Cake.—Sifted flour, 4 cups; 1 tea-cupful of cream; 1 pt. of milk; even table-spoonful of butter; 1 tea-spoonful of salt; 1 tea-spoonful of soda; 2 of cream of tartar, sifted with flour. Roll as soft as possible; cut small, thick Cakes with a form, and bake on the griddle.

33. Velvet Cake.—There is quite a tendency, of late, to have nice and smooth names applied to things, as well as to have nice things; hence we have Velvet Cake, Velvet Cream, etc., as follows:

Flour, and sugar, of each, 1 lb.; butter, ½ lb.; eggs, 4; cold water, 1 cup; cream of tartar, 1 tea-spoonful; soda, ½ tea-spoonful; flavor with any of the extracts preferred, 1 tea-spoonful.

Beat the butter and sugar to a cream, having dissolved the soda

in a little of the water, add it; and having sifted the cream of tartar with the flour, and thoroughly mixed them, sift them into the mixture, adding the balance of the cold water, and beat together; the eggs also having been beaten separately first, then together, stir them in, and the flavoring extract, beating the mass well, for a minute, or two. This will make a couple of the "nice" Cake, and will require baking about 1 hour. Raisins, seeded, chopped, and floured, may be put in if desired. And it can be baked in layers and laid up with chocolate frosting in place of jelly. The FROSTING, or ICING, made as under that head, then grating in as much "nice" chocolate as desired, giving another "nice" variety; and still another variety by using the *dessicated cocoa-nut*, kept by grocers, in place of the chocolate; or the meat of the common cocoa-nut can be scraped, or grated and dried, doing very well, but not equal to that prepared with sugar by the regular manufacturers, and kept on sale, as referred to above.

34. Cocoa-nut Cake.—Milk, 1 cup; flour, 3 cups; sugar, 2 cups; eggs, 3; cocoa-nut, grated, 1 (or the sale article to equal it); cream of tartar, 2 tea-spoonfuls; soda, 1 tea-spoonful.

Beat the butter and sugar to a cream; sift the cream of tartar, with the flour, into the mixture, adding the milk with the soda dissolved in it; and then add the beaten eggs, having beaten the yolks and whites separately, mixing them in quickly, and then stirring in the cocoa-nut, and baking about 1 hour, being careful not to jar the stove while baking, as the cocoa-nut causes a brittleness of the mixture, and, if jared, allows the escape of the gas which makes the lightness, or porousness of the Cakes; and, if the grated cocoa-nut is used, the Cake will be lighter if it is grated the day before, to allow it to drain and dry a little. The cocoa-nut should not be put in until ready to put into the oven.

35. Cocoa-nut, and other Frosting for Cakes.—Grate a cocoa-nut; then make the Frosting by beating the whites of 3 eggs to a high froth; having pounded in a mortar, and sifted, $\frac{1}{4}$ lb. of pulverized sugar, beat it in with 1 tea-spoonful of extract of vanilla, lemon, or peach, as preferred, and continue to beat it until it is light—remember the longer it is beaten, the harder and more firm it will be—then add about $\frac{1}{3}$ of the grated cocoa-nut, and mix thoroughly. If too stiff to spread, add a very little water by which means it will spread easily and smoothly; then sprinkle over the balance of cocoa-nut, which gives it a snow-flake appearance.

36. For Common Frosting.—One lb. of sugar should be used, in the same manner as No. 35.

37. Frosting and Ornamenting Cake.—For a middling sized Cake, take the whites of 2 eggs, thoroughly beaten, then stir and beat in pulverized sugar until quite thick. The more beating the harder will be the Frosting.

While the Cake is a little warm, dip of the Frosting with a spoon upon the highest part of the Cake, and, with a knife, spread it down toward the lower edge until properly covered; then set it in the oven for a minute or two to harden; and if not sufficiently clear and white, put on another light coat of the Frosting, and return to the oven to dry. After the Frosting is dry, it can be ornamented, if desired, by taking a piece of white writing paper, rolled as a funnel, the little end having a hole the size of a small goose quill, to allow the Frosting to run out in a small stream; then put a finger to stop the hole and fill

it with the Frosting rubbed down smoothly, and made a little thin, with water. Now, by carrying this funnel over the Cake, and removing the finger you can write, "Merry Christmas," or "Happy New Year," or any name, or date, or other ornament you choose—if done carefully, it will look well.

38. For Chocolate flavor, in laying up Jelly Cake, grate a nice article of it, and use in place of cocoa for the inside, saving some of the Frosting clear, for the top, as the color is more tasty.

39! Lemon Cake.—Sugar, 3 cups; butter, 1 cup; eggs, 5; 1 lemon; milk, 1 cup; flour, 4 cups.

Rub the sugar and butter to a cream, with the yolks of the eggs, then the milk and well beaten whites of the eggs; then sift in some of the flour, stirring well; then the juice and grated rind of the lemon, finishing with the balance of the sifted flour. Bake in shallow pans, from $\frac{1}{2}$ to $\frac{3}{4}$ of an hour.

40. Sponge Cake.—Eggs, 4; white sugar, 1 cup; flour, 3 cups; sweet milk, $\frac{1}{2}$ cup; baking powder, 1 large tea-spoonful; extract of lemon, vanilla, or nutmeg, as preferred, 1 tea-spoonful; salt, a small pinch.

Beat the eggs well, then beat in the sugar, and add the milk, flavoring, and salt. Put the baking powder into the flour, and sift, and stir in, and beat all well together; put into pans and bake in a quick oven. It will be very light and spongy. This may be baked in thin layers, and used as Jelly Cake; and if it is desired, while the layers are warm, one side may be covered with "jell," and rolled, to be sliced off when cold.

41. Another.—Sugar, $\frac{1}{2}$ lb., and put into it $\frac{1}{2}$ tumbler of cold water, and bring it to a boil to form a clear sirup; when cool, having beaten the yolks and whites of eggs, separately, add the yolks, stirring them well; flavor with the peel of a lemon, and add the juice of the same; add the whites of the eggs, and then sift in $\frac{1}{2}$ lb. of flour. It is claimed that this Cake will keep moist much longer than usual, on account of the boiling of the sugar.

42. Another.—Sugar, 1 cup; flour, 1 cup; eggs, 2; sweet milk, 4 table-spoonfuls; soda, $\frac{1}{2}$ tea-spoonful; cream of tartar, 1 tea-spoonful, or baking powders, 1 large tea-spoonful.

These Cakes take their name from their resemblance to a Sponge, both in lightness and toughness, if properly made, and properly baked, as they are quite tough, notwithstanding their lightness, as no shortening is used.

43. Another.—White sugar, 1 lb.; eggs, 10; flour, $\frac{1}{2}$ lb.; juice of $\frac{1}{2}$, and rind of 1 lemon.

Break the eggs into the sugar and thoroughly beat together; then the flour, lemon juice, etc. Beautiful, is the word of description.

44. Dough-Nuts.—Sour milk, 3 cups; soda, 1 tea-spoonful; eggs, 2; sugar, $1\frac{1}{2}$ cups; baking powder, and salt, of each, 1 tea-spoonful; 1 grated nutmeg; melted butter, or melted lard, from the kettle, 2 table-spoonfuls; flour, about 2 qts.

Dissolve the soda in the milk, add the sugar and eggs, the butter, or lard, and stir, or beat all the articles together; then sift in flour to make as soft a dough as can be moulded, and rolled out. Cut into strips, and twist, or tie into knots, or any other shape desired. Fry in lard as hot as it can be without burning, which prevents its too great absorption into the Cake, making it indigestible—a good light,

Dough-nut is a very healthy kind of food—a "greasy" one is very unhealthy.

My family find this plan quicker and more satisfactory than the old plan of raising the dough with yeast. If no sour milk is on hand, sweet milk may be used, by doubling the amount of baking powder, not using the yeast, and water will answer, by using more butter, or lard to make up for the richness of the milk, and an extra egg to make up for the lightness arising from the mixing of soda with sour milk.

For variety's sake, and also to help keep these Cakes soft, about $\frac{1}{2}$ lb. of the *dessicated cocoa-nut* may be mixed with the ingredients before the flour is stirred in.

45. Crullers.—Crullers is only another name for Dough-nuts, as above, the word probably coming from the German *Krulle*, meaning curled; hence, a Cruller is a curled Cake, or crisped, or boiled in lard.

Take sweet milk, 1 qt.; sugar, $1\frac{1}{2}$ pts.; flour, $\frac{1}{2}$ pt.; baking powder, 3 tea-spoonfuls; nutmeg, or cinnamon, or a little of both if preferred.

Mix all together nicely, then sift in as much more flour as to allow it to roll out, but they are better not to be made very stiff. Have the lard hot when they are put in.

46. Chocolate Cake.—Pulverized sugar, $1\frac{1}{2}$ cups; butter, $\frac{1}{2}$ cup; eggs, 5; sweet milk, $\frac{1}{2}$ cup; flour, $1\frac{1}{2}$ cups; cream of tartar, 1 tea-spoonful; soda, $\frac{1}{2}$ tea-spoonful; extract vanilla, or lemon, 1 tea-spoonful.

Beat the whites of 3 of the eggs thoroughly, as if for frosting, then beat the sugar into them, and take out some of it for frosting with; then beat in the balance of the eggs, and add grated Chocolate, 1 even cupful; then sift and stir in the flour. Bake and frost with what is used for that purpose.

47. Cream Cake.—Sugar, 1 cup; good rich cream, 1 cup; eggs, 2; soda, 1 tea-spoonful; flour, 2 cups; salt, 1 tea-spoonful. Make according to GENERAL DIRECTIONS, No. 2.

48. Another.—Cream, 1 cup; sugar, 1 cup; flour, 1 cup; eggs, 3; soda, $\frac{1}{2}$ tea-spoonful cream of tartar, 1 tea-spoonful; a little salt. Made in the usual way.

49. White, or Silver Cake.—Whites of 8 eggs; flour, 3 cups; white sugar, 2 cups; butter, $\frac{1}{2}$ cup; sweet milk, $\frac{1}{2}$ cup; baking powder, 1 rounding tea-spoonful; extract of lemon, 1 tea-spoonful.

50. Yellow, or Gold Cake.—Yolks of 8 eggs; flour, $1\frac{1}{2}$ cups; sugar, 1 cup; butter, $\frac{1}{2}$ cup; sweet milk, $\frac{1}{2}$ cup; baking powder, 1 tea-spoonful; extract of vanilla, 1 tea-spoonful. Mix and bake according to GENERAL DIRECTIONS, which see.

51. Fruit Cake.—Flour, sugar, and butter, of each, 1 lb.; English currants, and raisins, of each, 2 lbs.; citron, 1 lb.; eggs, 10; any good wine, 1 cup; brandy, $\frac{1}{2}$ cup, or 2 cups of wine without the brandy; those who choose to have no wine, or other spirits, will use a cup of sweet milk and a cup of water in their place; nutmeg and cinnamon to taste, or use the extracts, 1 table-spoonful, each.

English currants should always be carefully picked over to free them from gravel, then washed and drained; and the seedless raisins are preferable, in saving time to seed them, chopped and dusted with flour, as they mix thus, more evenly through the mass. Citron must be cut into thin slices and chopped fine, when it may be mixed evenly

through the mass, or put in layers. Mix according to GENERAL DIRECTIONS; and bake by putting a buttered paper on the pans.

52. White Mountain Cake.—Butter, $\frac{1}{2}$ cup; sugar, 2 cups; flour, $3\frac{1}{2}$ cups; milk, 1 cup; eggs, 2; cream of tartar, 2 tea-spoonfuls; soda, 1 tea-spoonful.

Beat all together, without separating the eggs—put the soda in the milk, and stir the cream of tartar in the flour. Bake as Jelly Cake; but in place of jelly, between the layers, put the following

Frosting.—Beat the white of 1 egg to a stiff froth, and stir in pulverized sugar, 7 tea-spoonfuls. Flavor with extract of lemon, or vanilla.

53. Ginger Snaps.—Molasses, $\frac{1}{2}$ lb.; brown sugar, and butter, of each, $\frac{1}{2}$ lb.; flour, 1 lb.; ground ginger, and caraway seeds, of each, 1 tea-spoonful.

Rub the butter into the flour, then mix in the molasses, sugar, ginger, and caraway seeds. Work all well, and form into Cakes the size of a "quarter." Place upon a baking tin, and bake in a moderate oven, for 20 minutes, when they will be dry and crisp.—*Warren's* (English) *Modern Cookery*.

54. Currant Cake.—Butter, $\frac{1}{2}$ cup; sugar, 2 cups; milk, 1 cup; English currants, 1 cup; soda, 1 tea-spoonful; cream of tartar, 2 tea-spoonfuls; flour, sufficient to make a pouring batter.

55. Snow-Ball Cake.—Sugar, 1 cup; sour cream, 4 table-spoonfuls; eggs, 2; salt, a little; flour, to roll out. Cut into small round Cakes, and fry in hot lard; and while hot, roll in powdered sugar.

56. Crumpets.—Eggs, 4; white sugar, 2 cups; butter, or lard, 1 cup; soda, 1 tea-spoonful, dissolved in $\frac{1}{2}$ cup of cold water; nutmeg, to taste; flour to roll out like cookies, rolling thin, and cutting into small Cakes. Sprinkle them well with powdered sugar, and bake in a quick oven. As the ladies say: They are "splendid."

In Crumpets, the sugar is upon the outside rather than on the inside.

57. Corn Starch Cake.—Whites of 5 eggs; butter, 1 cup; sugar, 2 cups; sweet milk, 1 cup; corn starch, 1 cup; flour, 2 cups; cream of tartar, 1 tea-spoonful; soda, $\frac{1}{2}$ tea-spoonful. See GENERAL DIRECTIONS.

58. Raisin Cake.—Raisins, 1 lb.; flour, sugar, and butter, of each, 1 lb.; eggs, 6; a wine-glass of brandy, in which rose leaves had been steeped, by standing; 1 small nutmeg; 1 small tea-spoonful of soda, saleratus, or baking powder.

Beat the butter to a cream; beat the yolks of the eggs with the sugar, then the flour; now stir in the creamed butter, and having whipped the whites to a froth, stir them in, and the brandy and spices, and the soda, or saleratus dissolved in a spoonful of hot water; now beat all until light and creamy; then add the raisins, they having been stoned, chopped, and covered with a cup of the flour, to cause them to mix evenly. The tin must be lined with buttered paper, and baked in a quick oven.

59. Canadian Cake.—Flour, $\frac{3}{4}$ lb.; pulverized sugar, $\frac{1}{2}$ lb.; fresh butter, $\frac{1}{2}$ lb.; English currants, $\frac{1}{2}$ lb.; eggs, 5; orange-flower water, 1 table-spoonful; 1 table-spoonful of wine, or brandy; the grated peel of $\frac{1}{2}$ a lemon.

Sift the flour and sugar together, and rub in the butter, and the beaten eggs, orange-flower water, wine, or brandy, and the currants;

beat all until light and creamy. Put into tins lined with buttered paper. Put in only thin, as it will rise well. Bake in a quick oven. It may be iced, if you mark it off into squares, or diamonds, for cutting, before icing.

60. Plain Short Cake.—Flour, 1 lb.; butter, or other shortening, $\frac{1}{2}$ lb.; sugar, 3 ozs. Mix, and roll out thick, and bake about $\frac{1}{2}$ an hour. It may be done without sugar; and soda, or baking powder may be used, if preferred.

61. Apple and Peach Cake.—Dried apples, 3 cups; molasses, 2 cups; sugar, 1 cup; raisins, 1 cup; thick sour cream, 1 cup; eggs, 2; soda, 1 tea-spoonful; cinnamon, cloves, and nutmeg, to taste; flour to make a stiff batter.

Soak the apples over night; in the morning chop them fine, and cook them slowly in the molasses for 1 hour; when cooled, put in the sugar, raisins, beaten eggs, cream with the soda in it, etc., and bake in a moderate oven. This gives moistness, and a peculiar flavor to Cake, that is very satisfactory.

Peaches that were peeled, before drying, may be used in the same manner.

62. Jumbles.—Made the same as Cookies above, only making a little stiff, and when cut out, roll the top in pulverized sugar, before baking.

63. Hickory-nut Cake.—Hickory-nut meats, $1\frac{1}{2}$ cups; butter, 1 cup; sugar, 2 cups; flour, 4 cups; sour milk, 1 cup; eggs, 3; soda, 1 tea-spoonful.

Have the meats chopped, or broken fine, and roll them evenly with half of the flour, mixing the other articles first, in the usual way, then mix in the nut-flour, and bake, in a moderate oven.

64. White Sponge Cake.—Whites of 8 eggs; white sugar, $1\frac{1}{2}$ cups; flour, 1 cup; cream of tartar, 2 tea-spoonfuls.

Mix sugar, flour, and cream of tartar together; then beat the whites of the eggs until stiff, and mix in, as quickly as possible, with the hand.

65. Coffee Cake.—Nicely made coffee, 1 cup; brown sugar, $1\frac{1}{2}$ cups; butter, 1 cup; molasses, 1 cup; raisins, or English currants, 1 lb.; flour, 5 cups; soda, 1 large tea-spoonful, dissolved in the coffee; cinnamon and cloves, of each, $\frac{1}{2}$ tea-spoonful; nutmeg, $\frac{1}{4}$ of 1.

Mix and bake in a moderate oven.

66. Hard-Times Cake.—Last though not least best of all, is a Cake for Hard-times:

Butter, sugar, molasses, and sour milk, of each, 1 cup; flour, 4 cups; eggs, 3; soda, 1 tea-spoonful. Sweet milk may be used; then baking powder, the same amount, in place of the soda.

If the "times" should improve, spices, or extracts of any flavor desired, may be used, with fruits also, as raisins, or English currants, to suit the taste, or the times.

CAMPBOR ELIXIR—For Cold-Sores, Chaps, Pimpled Face, etc.—The value of Camphor in salvy mixtures for Cold-Sores, Chaps, etc., is very great, as well as pleasant in its application. The following will be found a good combination:

1. Almond oil, and rose-water, of each, by weight, 1 lb.; camphor gum, 2 ozs.; white wax, spermaceti, and rosemary, of each, 1 oz.

Melt the wax, spermaceti, and Camphor gum, in the oil, by gen-

the heat; then, while a little warm, add the rose-water and stir briskly until thoroughly mixed; then add the rosemary and mix again. Pomade bottles, which have mouths to admit the finger, are suitable for keeping it in. For families, take one-half, or one-fourth the amounts. It can be made softer by lessening the wax and spermaceti, and harder by increasing them. It will be found a very valuable embrocation (to moisten and rub as with a liniment) for bruises, and common sores, pimpled faces, etc., especially on the delicate skin of ladies, and children, who shrink from the application of liniments, or from their smarting and irritation when first applied.

2. Another.—A salve is made by taking sweet oil, 3 ozs.; spermaceti, 4 ozs.; pulverized camphor, 1 oz.

Dissolve by gentle heat and stir while cooling, to keep the parts from separating. Apply whenever any irritation is manifested.

CAMPBOR—Its Uses.—Gum Camphor readily dissolves in alcohol, and also in common whisky, although not to the same extent, or strength. See **CAMPBOR SPIRITS**, No. 6, below.

1. Camphor Spirits, or Spirits of Camphor.—Alcohol, 1 pt.; camphor gum, 2 ozs. Mix.

It is used externally for sprains, swellings, pains, stitches, etc. It is applied by pouring into the hand and rubbing on freely, then wetting soft flannels and laying upon the parts, and covering to prevent evaporation; and re-wetting as fast as the parts become dry. This Camphor Spirits is probably as good an application as can be made to the female breast to dry up the secretion of milk, when it is desired to wean a child, or when, from any cause it becomes necessary to lessen the flow of milk.

2. Camphor Liniments.—Spirits of camphor, 2 ozs.; laudanum, $\frac{1}{2}$ oz.; spirits of turpentine, 1 oz.; Castile soap, in powder, $\frac{1}{2}$ oz.; alcohol, 3 ozs. Set in a warm place for 2 to 3 days, and if the soap is not all dissolved strain it, or heat it.

In bad cases of whooping cough, and for chronic bronchial affections this Camphor Liniment may be applied warm, to the throat, chest, and spine.

3. Camphorated Oil.—Olive oil, 1 pt.; camphor, 2 ozs. Mix, and dissolve by gentle heat.

In chronic rheumatism, sore throat, inflammation of the lungs, etc., this will be found a powerful rubefacient (to make red), or external stimulant, drawing the blood to the surface from the painful part; and it should be covered, the parts, with flannel, the same as the Spirits, or Liniment, above; in fact, it would be the better, in applying any liniment, or stimulating oil, to cover the parts which increases the heat and prevents evaporation; but with very strong liniments, or oils, be careful not to cause a blister, unless the pain is very severe; and even then, I prefer not to blister; but just to make as much counter (outside) irritation as I can short of blistering.

4. Camphorated Oil Liniment—Very Powerful.—Take the Camphorated oil and spirits of turpentine, of each, 2 ozs.; laudanum and aqua ammonia, of each, 1 oz. Well shaken.

This will be found very valuable in rheumatic pains of the limbs of long standing; or for any chronic (long standing) pains.

5. Another valuable liniment for chronic pains, or affections, is made as follows:

Alcohol, 1 pt.; camphor gum, 1 oz.; cayenne, pulverized, $\frac{1}{2}$ oz.;

lobelia, herb, or seed pulverized, $\frac{1}{2}$ oz. Set in a warm place and shake occasionally for a few days; then strain, or pour off free from the sediment.

Rub well into the parts affected, and it will generally relieve and ease the pains readily.

6. Camphor Spirits—Successfully Used in Relapse, or Settling of Mumps.—When a mere boy of from 8 to 10 years only, I think, I heard my grandfather, one evening, telling my father of a case where a young man had had the Mumps, and a week, or two, after, he "took cold," and they "settled," as it is called, *i. e.*, the testicles became swollen to such an extent that surgeons were at the house for the purpose of castration (removing the testicles to save life); when, at this stage of the affair, a stranger called in, and finding out the condition of things, he told the father of the young man, that, if allowed, he could save the operation; but some doubt being expressed by the physicians, he asked for 30 minutes only, in which, if they were not satisfied they could proceed. This time was granted; and before it had expired, they were informed, and were also satisfied that no operation would have to be made.

The plan of the stranger was to take champhor spirits, 1 oz. of gum to 1 pt. of whisky (which was the "old fashioned way" of making it, in the country, at least 40 or 50 years ago), poured into a basin, and the *scrotum* (the sac containing the testicles) placed in the basin, by holding the basin in such a position as to allow it; then with the hand bathe the parts, thighs, abdomen, etc., freely and thoroughly, and in a few minutes, the swelling began to go down, and a perfect cure was the result.

This, I believe, was my *first Receipt*, and well for me, at about 16, that I had heard it and remembered it; for at about that age, I also had the Mumps, and, some two weeks after, having taken cold, they settled, as in the above case, and my father and brothers being all from home, delicacy would not allow me to tell my mother my condition; and as there was but very little Camphor in the house, I took a pint flask and walked to town, $\frac{1}{2}$ of a mile only, but in great pain, and got a pint of whisky and an ounce of Camphor gum and broke it up fine and put it in and shook it often, on my way home, besides the motion of walking, so that when I got home, the gum was mostly dissolved; then I got a quart basin and went to the corn-field, near by, and took the above course, with the same result—entire relief.

And although, in a life of nearly 60 years, I have not had an occasion to use it in a similar case, yet, I have given it here, not only that it might be used in all such cases coming to the knowledge of any one into whose hands this Book may fall, but also to show the value of Camphor Spirits, especially for swellings. It is indeed, a very valuable article.

And I would ask the critically inclined, if *I am not justified from the success of my first trial, in adopting the "Receipt" business, as my legitimate life business.*

CANCER REMEDIES—Miscellaneous.—A short time since, or I think in 1870, or '71, there was a new article introduced into the United States, from South America, called *cundurango*, under the auspices, or countenance of the Government, by a Dr. Bliss, of Washington. And for a time, great hopes were entertained that an absolute *specific* (positive cure) had been found for Cancer. It was re-

ported that the mother of Schuyler Colfax was cured by this article; but I have recently (in the Summer of 1872) seen it announced in the papers, that this lady died of Cancer, which goes far in establishing the doubts which had begun to be disseminated that no dependence could be placed in it; but, rather that the leading object of its introduction was to obtain \$50, or \$100 per pound for the article, at which it was held. Much has been said on both sides of the question; but time, alone, will determine its value, or worthlessness.

But Cancer is such a terrible disease, and there are so many Remedies recommended for it, I have deemed it best to introduce among the Miscellaneous Receipts, such other Remedies as have been found valuable by those who have tried them, whose standing is such as to warrant any hopes of success by the use of the articles they recommend. The following is Dr. Déclat's Remedy for Cancer of the Tongue:

1. **Cancer of the Tongue—Remedy.**—Dr. Weisse reported to the Medical Society, of the County of New York, that Déclat had, in 1865, published a work on new applications of carbolic acid, in which he mentioned 2 cases of Cancer of the Tongue, treated by this agent, and 10 cases whose treatment was not then completed. He has since issued a work giving reports of 39 cases of Cancer of the Tongue, 12 of which were of doubtful diagnosis (not positively known to be Cancer). His local treatment consisted in applying, in spray (probably by inhalation); to the ulcerated surface, a solution of 5 parts of the crystalized carbolic acid in 10 parts of alcohol and 100 parts of water. In some cases, where a whitish fur covered the ulcer, he employed a caustic solution of equal parts of the crystals and the strongest, or absolute alcohol. Internally, he gave a solution of 1 part of the acid in 200 parts of simple sirup.

Dose.—One fl. dr. every 3 or 4 hours.

If this quantity produced nausea, as was sometimes the case, the dose was diminished. The Remedy acted as a local anasthetic (rendering insensible to pain), promoted sleep, and improved the appetite. Sometimes when the patient was in a bad condition, he gave the bicarbonate of potassa, or soda, in connection with the carbolic acid, as recommended by Broca. Occasionally, also, he combined with the acid, the arsenite of soda, or the bichloride of mercury. By this treatment Dr. Déclat had succeeded in curing *all* of the doubtful cases, and *ten* out of 15 where the diagnosis was *positive*. In 5 of these latter cases the treatment failed completely. In 2 only, of the 10 undoubtedly Cancerous cases, relapses occurred, but they were afterwards successfully met by the same treatment. In some of the cases clearly diagnosed, the treatment was continued for a year and upward, before the cure was pronounced complete.—*Medical Recorder*.

The great difficulty with many persons, is, if they are not cured in a month, or less, the Remedy is certainly good for nothing, and something else must be tried, while the *true principle* is, if you do not get worse, the sign is good—stick to it 3, or 4 months, at least, before giving up, even if no improvement appears. And it looks very curious to me, if the carbolic acid will cure Cancer of the Tongue, why it should not cure Cancer of any other part. I should certainly try it, if occasion offered.

2. **Cancer Salve—Patent.**—The *Scientific American* gives a report in 1868, of a patent having been granted to G. W. C. Gamble,

of Millersburg. Iowa, for making the following salve for Cancers:

"Take ashes made from dry, or green, red oak bark, 20 lbs.; the ashes of the root, with its bark, of 'bitter-sweet,' dry, or green, 5 lbs.; and green poke root, mashed, 5 lbs.

"To prepare the Salve, take a wooden vessel of suitable size, with perforations at the bottom, being such as is used to run off ash lye. Into this vessel put about 5 lbs. of the oak bark and bitter-sweet ashes, which should have been evenly mixed, in the proportions above given; then put in the mashed poke root, and follow with the remainder of the ashes. To this mixture add sufficient water to moisten, but not to drip. Let stand 24 hours. Then run it off by adding water until the strength of the ashes is exhausted. The extract will now be put in a metal vessel and boiled to the consistency of a Salve. Put in bottles with ground glass stoppers, and it is ready for use."

Mr. Gamble can be addressed for permission and instructions to use it, by those who have occasion to give it a trial. It would be used as a caustic Salve, no doubt, destroying the tumor, by which means it would be removed, then healed as other sores. The patent will expire in 1882.

3. Cancer Ointment.—Gilman's—Patent Expired.—A patent was also granted in 1836 (expired in 1850) to E. Gilman, of Ohio, for the following Ointment for the cure of Cancers:

Finely pulverized copperas (sulphate of iron) made into an Ointment with mutton suet.

It is to be spread on linen cloth, and renewed every 10 hours. And the Cancer is to be washed, before renewed, with a decoction of spikenard (made by steeping spikenard root in water) in which a little soda has been dissolved.

4. Drs. Bone and Henry's Cancer Salve.—King's American Dispensary informs us that "Dr. Bone and Dr. Henry, two celebrated botanic practitioners of some 30, or 40 years ago, made considerable use of this article in the treatment of some forms of cutaneous" (skin) "disease, indolent ulcers, and even Cancers; the following is the formula" (Receipt) "they employed:

"Simmer 1 lb. of the inspissated" (thickened by evaporation) "juice of poke leaves, for a short time, on hot ashes, until the watery portion has evaporated; then place it in an iron dish, add to it 1 lb. of fresh" (unsalted) "butter, and $\frac{1}{2}$ pt. of finely pulverized gun-powder, and place it over a fire, where it must be kept until it is so far dried that the mixture will flash once, or twice; or if it should take fire instead, it must be immediately smothered. Remove it into a glazed pipkin" (jar), "and let it remain on hot ashes until it is well incorporated, when it may be transferred into pots" (small jars), "and covered with alcohol to prevent it from moulding. This Salve, applied twice a day, is reported to destroy Cancer to its extreme fibres, or roots."

5. Mormon Cure for Cancer.—It is reported that a Mormon has discovered a Cure for Cancer. It consists of a *lemon poultice*, applied twice daily.

It is really to be hoped that this may prove more satisfactory to those who need a Cancer Cure, than "Jo Smith's" discovery of the "Mormon Bible" has to the world at large.

Indeed, it is very probable that a lemon poultice may prove a valuable corrective of these ulcerative conditions of the system.

8. CANKER AND NURSING SORE MOUTH—Remedy.

—Take epsom salts, gun-powder, borax, alum, copperas, and sulphur, of each, 1 tea-spoonful; soft water, 1 qt.

The alum and copperas, will be burned, or heated on a shovel, and pulverized; then all mixed and bottled for use. Shake when used. Hold a little of the wash in the mouth, for half a minute, and gargle the throat with it twice daily. And at the same time take a little sulphur and cream of tartar for 3 or 4 mornings, to correct the blood. It has cured bad cases after a failure of the "regular" Remedies. Our word gargle, probably comes from the German word, *gar-gel*, (the throat).

CANNING FRUITS.—There is a very large amount of Fruit Canned at the present time, both by families, as also by regular Canning establishments; and as a general thing, it is to be presumed that those who go into it for a business will take all possible pains to inform themselves of the best methods, and keep their plans as much a secret as possible, that they may compete with other establishments by getting out the best *flavored*, or best *keeping* Fruit; but, yet, families need not despair of being able to put up Fruit that will both *taste* well and *keep* well; for there are but very few points to observe to accomplish these two things.

First.—Then, it is needed to obtain a jar that will absolutely exclude the air; and in our experience we find no difficulty with the "Hero," "Gem," or "Mason."

Second.—As nearly all kinds of Fruit require some sugar with it when eaten we have found the best satisfaction in putting from $\frac{1}{4}$ to $\frac{1}{2}$ lb. with each lb. of fruit, when put up, for instance any Fruit such as the old English red cherry, which is pretty sour, we put $\frac{1}{2}$ lb. of sugar to 1 lb. cherries, after stoning; and strawberries, plums, gooseberries, wild grapes, currants, Siberian crab, sour pears, etc., will require about the same; while for blackberries, raspberries, whortle, or huckleberries, peaches, etc., only require $\frac{1}{4}$ lb.—tomatoes, none. And for those sweeter kind of small Fruits that require but little sugar, the boiling, or heating need not be continued as long as for the more acid kinds, which are also generally the more juicy, the longer boiling helps to overcome the tendency to work, or sour and spoil after being canned—5 to 10 minutes with the sweeter Fruits, and 15 to 30 minutes with the more acid, or sourer kinds.

1. To Can.—When the Fruit is all ready, for families who only put up a few qts. at a time as they ripen, take a large and deep tin pan and put a layer of sugar over the bottom, then a layer of Fruit, and so on, fill in the pan nearly full, or what you have, observing the above rules for sugar, and boiling; after they have stood with the sugar among them for an hour or two, set the pan on the stove to heat up, and observe not to stir the Fruit any more than is necessary, with a broad ended spatula, or paddle, to know that the Fruit does not burn, or stick to the bottom; and at the time the Fruit is put over, the jars should be set into the warming oven, as now found on nearly all cooking stoves, so that when the Fruit is sufficiently boiled, the jars will also be hot; then fill in the Fruit and juice in regular proportions, and put on the rubber ring and screw on the top, all being so hot that a towel, or napkin will be needed to hold the jar for screwing down

the top, and set aside, on the table, until all are filled. Let stand, then, until cool, when the top must be again screwed tight, and the jars of Fruit removed to the cellar and set on shelves, in the order of time, they are put up, and in a few days, it is best to go over the jars again and give an additional turn to the screw top.

We have now in the cellar (October), raspberries, strawberries, whortleberries, cherries, and peaches which were put up last year, just as good as when put up, in fact, by the taste we can not tell them from those put up the present season. Careful observation of the above rules is all that is necessary to insure success.

2. Canning Peaches—Improved Method.—The *Ohio Farmer* gives us an improved method for Canning Peaches, as follows:

"It is a steam closet, made like an upright case of drawers; has a door which can be fastened at top, middle and bottom, by shutting upon bolts having key-holes to fasten like store-window blinds, with keys, the door being listed" (as a door for Winter, to keep out cold) "to make it steam-tight. The Peaches are peeled, cut in halves, put in square tin pans to slip upon cleats upon two sides of the steam closet, the closet filled, the door closed and keyed, and steam let on with a powerful fizz, for 2 or 3 minutes, then shut off, the doors opened and the pans set upon tables, where girls pick up the pieces with forks and put them in cans; the cans thus filled are passed along to the end of the tables where there is a cauldron of rich sirup made with crushed white sugar, a dip of which is poured in to fill the holes among the Peaches, and the cans are sealed up.

"This steaming is much better than the old boiling process, as the watery juices are got rid off, also the acid juices which are secreted under the rind of the Peach, all of which, *being left in the pans*, are poured into a vat and converted into Peach brandy. By this steaming, also, the shrinkage is taken out, and the Fruit goes into the cans as clear and white as we see it in 'prize-jars' at the 'fairs,' while the sirup that takes the place of the watery juices makes a rich sauce when they come to the table."

Of course, the saving made by the brandy part of the operation, would amount to nothing unless the business was carried on upon an extensive scale—in that case the plan, no doubt, is very valuable.

Canning Apples for Spring and Summer Use.—Mrs. "M. G.," writes to the *Hearth and Home*:

"I have always found in my housekeeping that there was a time in the early Summer, before the ripening of small fruits or the appearance of early Apples, when it was rather difficult to meet the table demands for 'sweetmeats.' If fortunate enough to have large supplies of fruit to can during the Autumn, this difficulty is of course obviated. But sometimes fruit and sugar are too dear to 'put up' in large quantities. For several years we have used in our family what we all think a very good substitute for these Summer and Autumn fruits, and one that is easily and cheaply obtained. In the Spring, I collect many of our cans which have been emptied during the Winter, and fill them with Apples prepared thus: Take fair Greenings, Winter Pippins, Spitzenbergs, or Northern Spies—any will do, though I prefer the Greenings and Spy to any other. Pare and halve, and after taking the core out, place in a vessel of cold water. This prevents them from turning dark. Then make a sirup of about $\frac{1}{2}$ lb. of

white sugar to 1 lb. of fruit, and about $1\frac{1}{2}$ tea-cupfuls of water. Cut oranges in slices about $\frac{1}{4}$ inch thick, and allow 2 slices to each lb. Though sometimes, when the oranges are large, or the peel green, a less quantity is better, as too much orange will give them a bitter taste. Put the sirup and orange in a porcelain kettle, and heat until it boils, carefully removing all scum. Then put in the Apples and boil them until a fork will run through them easily. In the meantime, be very careful not to stir or break the apples. By turning the kettle gently, all danger of their burning at the bottom will be prevented, and when there is plenty of sirup, the Apples will float on the top, and there will be no need of even this precaution. When done, put the pieces carefully in the cans with a fork, or spoon, pour on the sirup, and seal quickly.

"Some complain that the Apples will boil to pieces. When the sirup is made rich enough I never encounter this difficulty. Apart from its convenience and easy preparation, it makes a beautiful dish. The effect of the large halves of Apples, with here and there a slice of orange, is quite tempting, and I think you will find the taste is not to be despised; and that during the early Summer no small amount of Canned Apples can be found very useful, in supplying a table deficiency which often at this season worries one's wits not a little."

There is no doubt about the correctness of this lady's reasoning.

1. CARBOLIC ACID—Its Make and Uses in Medicine, in the House, and on the Farm.—Carbolic Acid is an oily liquid, without color, a burning taste, and an odor of creosote, which it also much resembles. It is obtained from coal tar; and is made to an advantage only by large manufacturers.

Although an article of recent discovery as compared with the more common acids, it has already been extensively used for sanitary purposes (relating to a sound, or healthy condition) in medicine, agriculture, and manufactures. It is a very valuable disinfectant and antiseptic, i. e., removes, or neutralizes the cause of contagious diseases, and overcomes the tendency to putrefaction, acting directly upon the minute particles, to the presence of which, fermentation and its consequence, putrefaction, are attributed, destroying them, and thus purifying the air; and it is considered better for these purposes than chlorine, permanganate of potash, or "Condy's Fluid," (a disinfectant preparation), because these latter act upon all organic substances, while the Carbolic Acid acts only upon the causes of putrefaction; and it is of greater economy, as it requires but a very small quantity to prevent decomposition. It is so very volatile (disposition to rise and float in the air) it meets with these germs of disease, in the air, and destroys them; hence, it was used extensively in Europe, during the cholera, and the cattle plague, also. Even the 2000 (two thousandth) part would prevent the decomposition, fermentation, or putrefaction of urine, blood, solution of glue, flour paste, or feces, for months. And its vapor alone will keep meat, in a confined place, for weeks, and protect it from flies.

2. Its Caustic properties are also valuable in medicine. Besides being used in carbuncle, quinsy, diphtheria, hemorrhoids, fistula, and purulent (pus, thick matter) sores; preventing all disagreeable smell and keeping them in a healthy condition.

3. In agriculture it is considered very valuable for scab and foot-rot in sheep; and a very weak solution of it is recommended to be

applied upon cattle and horses which are troubled with flies and other insects. For the scab in sheep a solution of Carbolic soap, 0.17 of it is considered sufficient strength to dip the sheep into, and 1 minute sufficient time to hold him in; but for the foot-rot, an ointment made with the crude Acid and grease, placed in a stone trough and the sheep driven through it, is the manner of application in Europe.

But it would appear to me to be necessary to catch every sheep and be sure that some was placed between the hoofs and wherever the disease may be seen.

4. A weak solution of this Acid, applied to dogs "with fleas" is considered a certain remedy; and powdered camphor mixed with it and painted around the cracks where cockroaches are troublesome will be effectual in clearing them out, or killing them; in fact, Carbolic Acid in some form, as soap, etc., is becoming almost a "universal panacea" for all animal ills.

5. It is considered also an effectual method of preventing the growth of weeds in garden walks, a weak solution applied with a watering pot—1 part to 1000, or 2000 parts of water. Even flies and musketoes are said to avoid its odor, and may be driven away by it. The pure Acid is very poisonous, and in that shape, or of solutions of considerable strength must be handled with care.

6. Carbolic Acid also combines with iodine and prevents the stains upon clothing, and, upon the skin where it has been inconvenient to use that article on this account, as shown by the following:

"The *Journal des Connaissance Medicales*, publishes a letter addressed to Dr. Coppe on Dr. Percy Boulton's late discovery of the action of Carbolic Acid on iodine. 'The inconvenience attending the external application of iodine and its preparations is so serious that physicians are often compelled to abandon a remedy, the therapeutic efficacy of which is undoubtedly, almost unequalled in the *materia medica*'" (making it possible to use the combination of Carbolic Acid and iodine, in cases of Goiter, or Bronchocele of ladies, without coloring the skin of the neck, or staining the clothing, whereas with the iodine, alone, both of these difficulties arise, to their very great annoyance.—AUTHOR). "The great objection to the external use of this remedy is, that it leaves marks both on the linen and on the skin. This is a sufficient motive for seeking some means of getting rid of this drawback, especially in the case of ladies. Dr. Percy Boulton's method consists in adding a few drops of phenic (Carbolic) Acid to the iodine solution to be employed. This addition renders iodine perfectly colorless, so that it may be applied, with impunity. But this combination has another advantage. It appears from that practitioner's observations, which I can affirm, that, so administered, Carbolate of Iodine, which is the new substance in question, is not only one of the most powerful antiseptics" (opposed to putrefaction) "we possess, but is intrinsically a more efficacious agent than iodine alone. I have used this compound under the form of injections, gargles, and lotions, in all cases in which iodine is prescribed. In sore throat, ozena (a putrid ulcer in the nostril) abscess in the ear, etc., this preparation is a *sovereign* remedy; since, besides its disinfecting qualities, it modifies the mucus membrane, causes all local sensibility to disappear, and cures the patient much sooner, than if either

of the two agents were used separately. The formula I employ is as follows:

7. "Compound tincture of iodine, 3 gms. (a *gramme* is equal to about 15½ grs.); pure liquid carbolic acid, 6 drops; glycerine, 30 gms.; distilled water, 150 gms.

"The writer then enters more particularly into the properties of Carbolic Acid, but with which our readers are already acquainted. Its efficacy as a disinfecting agent in the case of sores is well known; it may be prescribed in all cases in which tar water is administered, and is, we trust, now pretty generally adopted for disinfecting purposes in hospitals and barracks."—*Scientific American*.

It will thus be seen that, at home and abroad, Carbolic Acid is very highly esteemed; and is truly worthy of very great confidence.

8. **Carbolic Acid for Wounds.**—After the above was written, I came across the following communication of Dr. F. C. Calvert, F. R. S., to the *Pharmaceutical Journal*, which goes so strongly to show the value of the Carbolic Acid, that I deem it best to give it in full. It is as follows:

"Although Carbolic Acid has long been known to possess powerful antiseptic properties, its use has been delayed in medicine owing to the difficulty experienced in obtaining it in any considerable quantities, and in a state of purity, as well as to the caution required in introducing new substances into that branch of science. The success, however, which has lately attended its application, will tend greatly to increase its importance as a therapeutic agent." (An agent to aid in restoring health). "It has been used with marked advantage in the Manchester Royal Infirmary by several of its distinguished physicians and surgeons. Thus Dr. Henry Browne has given it in solution for *chronic diarrhoea*, with very satisfactory results. Dr. Roberts has applied it with great success in the dose of 1 drop, in cases of *vomiting*, even after creosote had failed; he has also found it beneficial in cases of vomiting from *dyspepsia*, which disease is especially marked by pain after food has been taken. Mr. J. A. Ransome has used it for *ulcers* and other offensive discharges. Mr. Thomas Turner, in a note which he has communicated to me, speaks of Carbolic Acid in the following terms:

"It may be advantageously used as a solution of 1 part of acid in 7 parts water, in *fetid, or ill-conditioned ulcers*. It alters the action of the blood-vessels, causing a purulent" (pus, thick matter) "instead of a sanious" (a thin reddish, unhealthy matter) "discharge, and destroys almost immediately the offensive smell of the secretion. The ulcers having a communication with carious" (ulcerated) "bone, or even necrosis" (dead, or mortified bone), "it has, in its diluted state a good effect when injected into the sinuities" (crooked openings) "leading to the diseased bones. When there is mere carious, or ulceration of the bone, it benefits the healing process, and in necrosis, it promotes the exfoliation" (to separate and come off in scales) of the dead portion. In *gangrenous*" (tending to mortification) "and all disagreeable smell and putrescency" (tendency to become rotten) "and may render the discharge innocuous" (harmless, safe) "to the contiguous" (adjoining, near) "living and unaffected tissues" (flesh). "In its dilute state, therefore, it is a great boon to patients laboring under that class of diseases.

9. "Mr. Heath, house-surgeon of the Infirmary, has used it with 2 parts of water, as a lotion in *sloughing wounds*" (wounds where dead, or mortified flesh separates from the living) "and has found that in a short time after its application, it entirely arrests the sloughing process, and produces a healthy appearance.

10. Dr. Whitehead has used, with advantage, Dr. Robert Angus Smith's solutions of sulphites and Carbates of lime and magnesia.

11. "In July, 1859, M. Velpeau drew the attention of the French Academy of Sciences to the value of the mixture of coal-tar and sulphite of lime, of MM. Come and Demeaux, in the healing of ulcers and other offensive wounds; and, it may be added, that this mixture was used with great advantage in the French army, after the great battles of Magenta and Solferino.

12. "In the following month I forwarded a note to the French Academy, pointing out, that from experiments I had made with the various substances existing in coal-tar, it was highly probable that Carbolic Acid was the active agent of the coal-tar mixture used by MM. Come and Demeaux; and that much more certainty might be expected if the Carbolic Acid was substituted for the coal-tar in their mixture, for the composition of coal-tar varies according to the nature of the coal used, and the temperature employed in its preparation. I also suggested that it was probable that the powerful antiseptic" (opposed to putrefaction) "properties of Carbolic Acid prevented the decomposition of the surrounding parts, and thus tended to restore the wounds to a healthy state, and to remove the cause of infection.

13. "Before quitting this part of the subject, I beg again to call the attention of physicians to a fact which I have before published in one of my papers, namely, that the addition of 2 or 3 drops of this Acid to 1 pt. of freshly-made urine, will preserve it from fermentation, or any marked chemical change for several weeks.

"I have also applied it, lately, to foot-root, which annually carries off large numbers of sheep; and I have been given to understand that the remedies hitherto adopted in this disease have been only partially successful. I think that, if my experiments are further confirmed, it will prove a great boon to the farmers of this country." (If good for the farmers of England, why not then prove valuable to the farmers of the United States? It certainly will, and already has. See further on.—AUTHOR).

14. He closes in the following words:

"This Acid has also been applied by me, during the last twelve months, to the preservation of *gellatine*" (liquid glue, or jelly) solutions and preparations of paste made with starch, flour, and similar substances, and of skins, hides, and other animal substances. In fact, its antiseptic powers are so great that it is the most powerful preventive of putrefaction with which I am acquainted. It appears also to act strongly as an antiferment" (opposed to fermentation); "for I have proved, on an extensive commercial scale, that it prevents, as stated by me in a paper published in 1855, the conversion of tannic into gallic acid and sugar. It also arrests lactic (milk) fermentation. I am now engaged in a series of experiments to discover if that power extends to alcoholic, butyric" (derived from butter) "and acetic" ("treagar") "fermentation."

15. I now come to speak of the use of Carbolic Acid in the Uni-

ted States. The *Journal of Applied Chemistry* makes the following remarks of its use. It says:

"In pasting wall-papers, posters, etc., especially where successive layers are put on, there arises a most disagreeable effluvia, which is particularly noticeable in damp weather. The cause of this is the decomposition of the paste. In close rooms it is very unwholesome and often the cause of disease. In large manufactories, where large quantities of paste are used, it often becomes sour and offensive. Glue, also, has often a very disagreeable odor. If, when making paste or glue, a small quantity of Carbolic Acid is added, it will keep sweet and free from offensive smells. A few drops added to mucilage, or ink prevents mold. In white-washing the cellar and dairy, if an ounce of Carbolic Acid is added to each gallon of wash, it will prevent mold and prevent the disagreeable taints often perceived in meats and milk from damp apartments.

16. "Another great advantage in the use of Carbolic Acid in paste for wall-paper and in white-wash is, it will drive away cockroaches and other insect pests. The cheapest and best form of Carbolic Acid is the crystals, which dissolves in water, or liquifies at an excess of temperature."

I should think that 1 oz. to a pailful of white-wash would be plenty. It is certainly valuable in the white-wash for hen-houses, to kill, or drive away the lice that get into the cracks in the poles of the roost, and in the walls.

17. *The Hearth and Home* makes the following remarks upon the uses of Carbolic Acid. "Possibly no article of late discovery is of equal value to the farmer with this. Being destructive to all forms of insects, it furnishes a barrier to their increase, which will tend much to deliver us from their ravages. It also destroys the minute fungus which produces mold, and those mysterious germs by which, as is claimed, diseases are spread from one individual to another. Used in a proper form it will serve as a wash for trees and plants, destroying the insects which infest them and their eggs. It will rid animals of all parasites; lice, ticks, and scab, are all destroyed by it. It is an excellent application to all festering sores, or wounds. In cases of the rinderpest it was the only substance used that was of positive use in preventing infection. Such being the valuable properties of this article, it should be in the hands of every farmer. For his convenience it is put up in preparations that may be conveniently used. In the shape of Carbolic soap, it is easily applied as a wash; in the 'disinfecting powder,' it may be used in all cases where a dry application is needed; and in the 'sheep-dip and vermin-destroyer,' it can be used in cases where strong liquid applications are necessary."

Johnathan Cruzan, M. D., of Brush Creek, Fayette County, Iowa, reports a case of its curing emesis (vomiting), to the *Eclectic Medical Journal*, under the head of

18. "Carbolic Acid in Emesis (Vomiting).—I ask you to notice one thing in the *Journal*, if you think it best, that is, Carbolic Acid a specific" (a positive cure) "for Emesis. Mrs. M. E.—, a short time ago, was taken with severe Vomiting, continued for 24 hours, at which time I was called. Found her in a state of great prostration. I gave my prescriptions for some time, and they seemed to avail nothing. I at last gave a very weak solution of Carbolic Acid in 1 tea-spoonful doses. The first dose appeared to arrest the Vomiting.

Since then I had one other case in the same state. I immediately gave the acid, and one dose arrested it. The question is, is Carbolic Acid a specific for Vomiting?"

19. Prof. King says of it: "Internally, pure, crystalized Carbolic Acid has been advantageously employed in *obstinate vomiting*, pains following meals, flatulency, diarrhea, from eating articles causing fermentation, scarlatina anginosa" (malignant scarlet fever), "offensive breath, etc."

Dose.—Five grs. of the crystals to 5 fluid ozs. of water, given in 1 to 2 tea-spoonful doses, repeated 2, or 3 times daily. This is the probable strength of what Dr. Cruzan calls "a very weak solution," above, and of which he made 1 tea-spoonful the dose.

20. Carbolic Acid in Poisonous Doses—Antidote.—It should be known, however, by the *people*, who will be led to use it quite extensively, that it is a *corrosive poison*, in large doses, which might occur by accident; hence, great care should be used in keeping the crystals, or a strong solution of it about the house; and it will not be amiss, here, to give an antidote for it, so far as antidotes are now known for it:

Antidote for Carbolic Acid.—"Next to the stomach-pump, in poisoning with this Acid, the *best* Antidote is large doses of *olive*, or *almond oil*, with a little *castor-oil*. Oil is a solvent, and therefore a diluent of Carbolic Acid, and may be used to stop the corrosive effect of the Acid, when its action on the skin is too violent."—*Journal of Cutaneous Medicine*.

It will be understood that the oils, above mentioned, may be given internally, as well as applied externally, in case of an accidental over dose.

21. King further says of its use: "In *burns* and *scalds*, Carbolic Acid affords *immediate* relief, also in *bites* and *stings* of insects. One part of the acid to 6, or 7 parts of olive-oil, applied with lint, and covered with tin-foil, or oiled-silk, will be found useful in cases of *severe* burns, or scalds.

22. Carbolic Salve.—Lard, 1 oz.; Carbolic Acid, in crystals, 8 grs.; simple cerate, $\frac{1}{2}$ oz. Rub them together by putting in a little of the Acid at a time, and working thoroughly together.

Carbolic Salves are being made and sent out for sale as wonderful "cure-alls," but the probability is that this preparation will be found equal to most of them. It may be used in chaps, burns, scalds, bruises, sores, tetter, ringworm, and other diseases of the skin, especially those having any bad feter, or smell arising from them.

CARPETS, CLOTHING, etc.—To Clean, or Renovate.—When Carpets, or Clothing become soiled by grease spots, etc., the following mixture will be found a valuable Renovator:

Take rain water, 1 gal.; old soft soap, $\frac{1}{2}$ pt.; aqua ammonia, 4 ozs.

Put in a bottle and cork for use, shaking occasionally, until it is thoroughly mixed. If no old soft soap is to be had, use $\frac{1}{2}$ lb. of Castile-soap, shaved in thin slices, and if it does not dissolve readily by shaking, in a day, or two, heat slightly until dissolved.

When a Carpet becomes soiled by upsetting lamps, gravy, etc., it is best to take them up and dust well; then pour on a quantity of this mixture and cleanse the spot; after which wash the spot with warm, soft water, and dry thoroughly; and if it shows at all, apply again. The ammonia very much aids to turn the oil, or grease into a soap,

and thereby, the oil, or grease, in the spot helps to wash itself. The same with Clothing. See CHLOROFOM, also AS A SOLVENT.

CARRIAGE VARNISH—Pale and Good.—One of the best Varnishes for Carriage work is made by mixing boiled linseed-oil, hot, 2½ gals., with pale African copal gum, 8 lbs., melted in an iron vessel of suitable size to hold all, and to allow the mixture to have slowly stirred into it ½ lb. of sulphate of zinc, and the boiling continued until it becomes ropy, or stringy; then removed from the fire and thinned down to a proper consistence, for use, with turpentine. It dries in a few hours, and is durable.

CARROTS—The Best Vegetable for Cattle and Horses.—The *American Stock Journal* says: "The Carrot is the root esteemed of all roots for its feeding qualities. When analyzed, it gives but little more solid matter than other roots, 85 per cent being water; but its influence in the stomach upon the other articles of food is most favorable, conducing to the most perfect digestion and assimilation. The result, long known to practical men, is explained by chemists as resulting from the presence of an article called *pectine*" (to make fast or stiff) "which operates to coagulate, or gelatinize vegetable solutions, and this favors digestion in all cattle. Horses are especially benefited by the use of Carrots. They should be fed to them frequently with their other food."

1. CASE-HARDENING IRON—Different Processes.—Make a paste of prussiate of potash, pulverized, by using flour, equal in amount, and a little water. Cover the articles to be hardened, with a coat of the paste and let it dry. Raise the article to a low red heat in a clear fire, and plunge into cold water. The flour assists only in forming the paste, and causing its adherence to the Iron.

This will be found valuable in Case-Hardening buggy and light wagon axles, and other journals of such a shape as not to allow the boxing up arrangement, explained below, for smaller articles, as found in the *Scientific American* of Jan. 12, 1867, embracing full and ample instructions, to suit different circumstances.

Permit me to say here, that for *mechanical and scientific information*, I do not think we have in the United States, a newspaper to compare at all favorably, with the *Scientific American*, and I have this much more to add to this statement, and that is, *no mechanic, or gentleman following Scientific pursuits who expects to keep up with the improvements of the day can afford to be without this valuable paper.*

Its remarks upon this subject are as follows:

2. "This simple process, so useful to the mechanic, is not always understood even by workmen of considerable experience.

"The effect of Case-Hardening is to convert the surface of Iron to steel. It is, in fact, a process of *cementation*" (the physical properties of the body being changed by a chemical combination with the powder), "differing mainly from the manufacture of true steel, in the different lengths of time employed. True Case-Hardening is effected by packing the article to be hardened, in a box with ground, or broken bones, particles of horns, rawhide, and even tanned leather. The box should be of cast-iron, of any convenient form, large enough to receive the article to be Case-Hardened, and to admit of its being surrounded with the material used. It ought, really, to be covered, and luted" (cracks covered with a clay mortar) "air-tight, although tolerably good results may be obtained if it is left open. The box with its con-

tents is placed in a furnace, the fire of which should surround it. The fuel may be anthracite, or coke, but *preferably* charcoal. The longer the heat is kept up the deeper will be the action of the cementing" (Case-Hardening) "materials. Ede says that in half an hour after the box, and its contents, are thoroughly heated, the coating of steel will be scarcely the thickness of a sixpence; in an hour, double that, etc.

"But this process is lengthy and not always convenient. Frequently all the mechanic requires is a thin coating of indurated" (hard) "metal on the outside of the article, which will not be subject to ordinary abrasion" (wearing, or rubbing off), "or the action of the file. For this purpose prusiate of potash is *largely* employed and has become an article of commercial importance. It is a *ferrocyanide*" (from the Latin *ferrum*, iron) "of potassium, and is made from animal matters containing nitrogen, as blood, hoofs, hides, woolen rags, hair, leather, and animal offal, charred in retorts" (cast-iron cylinders admitting of great heat) "and then fused" (melted) "with potash. The mass is then drawn, cooled, filtered, and dried for crystalization. The result is a crystalized" (like ice,) "yellow mass." This is pulverized for use.

"In Case-Hardening with prusiate of potash, the article of wrought, or cast-iron is heated in a furnace, or forge, to a *light red*, the powdered prusiate then sifted on, when it *fluxes*" (melts), "and the article may be immediately removed and plunged into cold water. Re-heating it is of no benefit, but really a detriment. One application of the prusiate is sufficient."

It appears to me that the above, recent improvements, will aid every mechanic to adapt himself to every Case-Hardening job that may offer.

3. Another—English Patent.—Prusiate of potash, salammoniac, and saltpeter, equal proportions by weight, powdered and kept on the forge; then a tempering pickle is made with salammoniac, 4 ozs.; prusiate of potash and saltpeter, of each, 2 ozs. dissolved in each gal. of water used in the tempering pickle; then heat the articles to a red heat only, and roll it in the powder until every part of the surface is covered with the flux (melted powder); then put into the pickle, or tempering bath, as above, until cold; which the patentee, G. J. Farmer, of Birmingham, England, claims will Case-Harden deeper than the older way of putting a paste of the potash on the article.

There is an undoubted advantage in the tempering-bath, or "pickle" as he calls it, explained more fully under the head of TEMPERING MILL PICKS, which see.

It was probably not patented in this country, if it was, it has now expired.

CASTOR-OIL—Made Palatable.—Septimus Piesse, a celebrated French perfumer, established in London, informs us that Castor-Oil is made quite palatable by the following plan:

"Castor-oil, 3 ozs.; nice soft soap, 1 dr." (1 tea-spoonful); "simple sirup, 1 dr.; oil of cinnamon, 6 drops."

Rub the soap with the sirup in a mortar, and gradually add the oil, rubbing constantly until it is all added and well mixed; then add the oil of cinnamon and rub well together.

Any person, like myself, who can not use cinnamon, can use any other essential oil that they may prefer, in its place. This amount of

soap will have no bad effects in any case, but aids greatly in overcoming the nausiousness of the Castor-Oil—it makes, an *electuary*, that but few children, or grown persons, would object to take. The dose would be the same as for the Oil alone.

1. CATARRAH REMEDIES.—Iodine, 10 grs.; alcohol, 1 dr. Put in a 2 oz. vial; and when the iodine is dissolved, fill the vial with soft water.

A little of the mixture is to be injected into the nostrils, with a small syringe, 3 times daily. This has proved very successful. An alterative containing iodine, taken internally will be a desirable thing, in treating any obstinate chronic disease. This Receipt is from a neighbor of mine who has tried it several times, with success.

2. Another.—The following Remedies for Catarrh were published in the *Household*, of Brattleboro, Vt., and are highly recommended; and if the first fails in any case, they should certainly receive a trial. Although the first writer has only given us his initials, yet, there is quite a philosophical reason advanced in support of the Remedy. In writing to the editor he says:

"Sometime ago we heard that sulphur and whisky was an infallible remedy for Catarrh, and know several persons who were entirely freed from it by its use. We remember one young man who was studying for the ministry, but was so afflicted with this malady that his presence was intolerable. His sight and hearing were much impaired, and his voice was little better than a husky growl. He had employed the most skillful physicians, but without avail, and considering himself incurable had decided to abandon the study of his chosen profession. But finally an old lady, who was fortified with a remedy for every disease, promised to cure him in a given time if he would follow her directions, which were these:

"Take 1½ ozs. of sulphur and 1 pt. of the best Bourbon whisky; place in a bottle together, and take, after shaking thoroughly, 1 large spoonful for 3 mornings, forcing it up about the palate and keeping it in the throat as long as possible. Then omit three mornings, which gives the medicine time to act upon the system and take again. Or, as the old lady said, 'take three and skip three' till the pint was consumed. He did so and was cured. But as we have never seen the Remedy in print we conclude he wasn't as mindful of suffering humanity as he should have been."

(I would certainly advise, here, that the throat be first well rinsed, by gargling with the same, and spitting it out, as to swallow the matter would be very bad policy—double the amount and you come out the same.—AUTHOR).

"The other day we were reading an ably written article on fungi, in which the writer says that sulphur is death to many specie of fungoidal growth. The reason of sulphur being a remedy for Catarrh occurred to us at once.

"This disease is known to be a chronic inflammation of the mucous membrane of portions of the head and throat, occasioned, many believe, by the inhalation of the invisible spores of fungi which float in the air" (literally *fungi* is a species of mush-room, or toad-stool; but in medicine it relates to what is commonly called proud-flesh, or granulations of an unhealthy character) "the invisible spores of fungi," (would refer to such small particles of matter as would be inhaled causing the disease). "Now if sulphur is death to the fungus

which destroys the tree and vine, why may it not be to other species? The value of this simple remedy is worth testing at any rate; for Catarrh, unless removed, is likely to terminate in bronchial consumption, and is never a pleasant companion."

8. The other is as follows:

"DEAR EDITOR:—I received the first number of the *Household*, and found the question asked by "L. M. D.," how to cure Catarrh in the head. I have a Receipt which, if used thoroughly, will cure the worst cases. It is simply this: Steep a little white oak bark in water, and use by snuffing the tea up the nostrils. This is a never failing remedy."

M. I. DART.

I have no doubt but what the oak-bark would be found valuable in recent cases of Catarrh; but in cases of long standing I should not expect an entire cure from it. Its effects would be to constrict, or close up the mouths of little vessels that discharge the offending matter into the nasal passages, throwing it back upon the system; then a gentle cathartic, of an alterative character would be required to carry it off, and to change the action of the system. The old ladies' SULPHUR AND WHISKY, given in No. 2, above, will fill both indications. It may be taken according to her plan of "take three and skip three," mornings, following it up for some considerable time, if necessary.

CATERPILLARS ON TREES AND SHRUBBERY—To Destroy.—Tie a cotton, or linen cloth on the end of a small, slim, pole, sufficiently long to reach their nests; then wet the rag with kerosene oil, light it with a match, and hold it under the nest, which is immediately consumed by the blaze of the oil, and the Caterpillars come tumbling through the fire, to the ground; and are thus effectually destroyed. I have burned as many as 8 nests, that were near together, with one lighting. It takes but a short time to go over quite an orchard. The time to do it is *when seen*.

CATCHUP, OR CATSUP—From Tomatoes.—It is believed that these words are of East Indian origin, and were formerly applied to pickles, in that country; but more recently have been applied to a sauce made from Tomatoes, walnuts, mush-rooms, etc. In the United States, however, there is but little Catchup made, except that from Tomatoes; and there are about as many ways of making it as there are housekeepers, in the land, yet there are but few dishes upon which the "goode-wife" fails more often than upon this.

1. We—my family—are now using a very nice article of this sauce made in the following manner: With each $\frac{1}{2}$ bu. of Tomatoes, washed and sliced, slice in also 5 good sized, washed, and peeled onions, which were boiled together for an hour, or more, or until they were all soft; then set by to cool; after which they were rubbed through a sieve; and to each 6 qts. of this prepared mixture was put in, salt, 2 table-spoonfuls; cloves, cinnamon, and allspice, of each, 1 table-spoonful; black, and cayenne pepper, of each, 1 tea-spoonful; brown sugar, 1 tea-cupful; and good vinegar, 1 pt.; then cooked it away fully one-half. It is rather thick, but it will keep all the better.

I had always disliked the idea of onions in Catchup; but as the lady acquaintance who sent me this Receipt, for the *new Book*, said: "If you doubt this being good, come down and see us, and we will let you try some of it. It is pronounced, by all that have tasted it, *the best they have ever eaten*." But as she lived at some little distance, in a neighboring city, and as I had not the time to spare to make the de-

sired visit with my wife, although we had been for a long time acquainted, and formerly neighbors, we concluded to make our Catchup for this year, 1872, from her Receipt, except the salt, there was none in the original—the result is, not only entire satisfaction, but rather an exultation in the superior taste, and appearance of the article. It is a bright color, and no particular spice predominating; and I would say to any one doubting the propriety of making it, if they prefer, first, “come down and see us, and we will let you try some”—we shall keep it on hand—even children are fond of ‘t.

The same lady sent me two other Receipts, one for WHOOPING COUGH SIRUP, using *beets* in its preparation and one for a COUGH SIRUP, which see, using *tar* in its make, assuring me that she had tried them and, knew their value; and although I have not had an opportunity to test these, I am satisfied of their value, judging from their composition, for having given a life-time to the consideration of this class of subjects, *I think*, at least, that I can tell the value of a Receipt, as quick as I read it; at any rate, if *experience* is valuable is any line of thought, *it certainly is in making a good Receipt Book*, for it is impossible that an opportunity can be had for testing to an absolute certainty, every Receipt, hence, *the necessity for experience, and sound judgment.*

CATHARTIC ELECTUARIES, AND TASTELESS INFUSIONS, CASTOR-OIL, AND SENNA—For Children.—An Electuary signifies something that is liked in the line of medicine, or literally, to be licked up; hence the following plan of preparing Castor-Oil so as to be liked, by those who have to take it, will at the same time add slightly to its power of action. None need be afraid of the soap, for it is often used in making cathartic pills, and in small quantities, is not at all injurious. The plan is as follows:

1. “Castor-oil, 3 oza.; white soft soap, or Castile soap, 1 dr.; simple sirup, 2 drw.; oil of cinnamon, and rose, or any other essential oil liked better, 6 drops, of any two kinds.

“Rub the soap with the sirup, in a Wedgwood mortar, or bowl, and gradually add the Castor-Oil, stirring until it is thoroughly mixed, then add the cinnamon, and other flavoring oil and stir well. By these means, a gelatinous (jelly like) Electuary is formed which is rather palatable than otherwise, and nearly equals, bulk for bulk, Castor-Oil in strength. The quantity of potash present, in a dose, is only a *homeopathic* dose, and consequently not likely to produce a bad result in any case, even when it should be contra-indicated” (It will add to its cathartic action).

“Stuncke, states that Castor-Oil saponifies (makes soap) readily with alkalies, and gives, with soda, a solid white soap, which in the form of pills, is a certain and agreeable purgative.”

Then, I would say, if any one prefers, they can use a dr. of soda in the Castor-Oil in place of the soap, with about the same result.

2. **Senna Electuary, or Sirup.**—Take Senna, manna, cardamon seed, and cream of tartar, of each, 1 oz.; white sugar, $\frac{1}{2}$ lb.

Bruise the senna and cardamon seed, then pour boiling water, 1 $\frac{1}{2}$ pts., upon them, in a dish that can be covered, and steep an hour, or two, the dish being covered, then strain and press out, after which add the cream of tartar and sugar, dissolving by heat, to form the Sirup. Bottle for use.

Dose.—The dose for a child would be from a tea to a table-spoon-

ful, according to age; and for an adult, a wine-glassful, once in 1 to 2 hours until 3 doses have been given, then double the time between doses, until its cathartic effects are obtained. It is a safe and certain cathartic, valuable in fevers and inflammatory diseases, and for pregnant females, and debilitated patients needing cathartic action—especially recommended in erysipelas.

3. Senna—Tasteless Infusion for Infants.—Dr. Brandies, of Europe, says: To put Senna into cold water, in a covered dish, and let it stand 12 hours, is especially useful for infants; as this process only dissolves the cathartic and coloring matter, having the essential oil; the fatty matter, and the irritating resin, which are only soluble in hot water; but, prepared in cold water it is almost tasteless, and entirely so, if mixed with a little tea or coffee.—*Archives Generales de Medecine.*

I have no doubt of its value, thus prepared, and recommend it to avoid the griping occasioned by giving it as commonly prepared, as I know that strong, cold coffee, will almost absolutely cover the terrible bitter of quinine.

4. Cathartic Tincture for Children and Dyspeptics.—Take Alexandria senna, 2 ozs.; jalap, 1 oz.; fennel seeds, 1 oz.; whisky, or best brandy, 1 qt.

The jalap and fennel seeds should be burned, powdered jalap may be used; then mix all and let stand a week, or 10 days, shaking daily, when it will be fit for use, and may be strained, or allowed to stand upon the drugs, as it will settle and remain firm in the bottom of the bottle.

Dose.—A tea-spoonful, or 2 to a child, according to age from 4 to 10 grs. in a little sweetened water—a table-spoonful to a grown person. It might be strained and about 2 lbs. of white sugar added to it, by gentle heat making an agreeable sirup. The dose would then necessarily have to be a little increased. But it will be well to test the dose with children, beginning with a little less than the ordinary dose, and let *experience* (an excellent teacher) show the proper dose, as different persons require different doses to give the same amount of action.

This will be found a mild, yet effectual cathartic, particularly valuable for children, and grown persons of a dyspeptic, or other weak habit of body. It will also be found as *pleasant* to the taste, as *effectual*, in cleansing the system.

CEMENTS—For General but very little trouble, and for purposes, is made as follows

A Cement that is made with prove satisfactory for general

1. Dissolve gum-arabic in water, a wine-glassful, by putting it, boiling hot, upon the bruised gum; when fully dissolved, stir in very finely powdered plaster of Paris to make a thick paste. Apply with a brush to the edges of the articles to be mended, and press them firmly together until it sets a little, and keep them in position until dry. This will be as good for toilet articles as for any kind of table dishes. The Cement being white, of itself, it will scarcely be noticed; but any mended dishes should not be put into hot water for any considerable time.

2. Another.—Isinglass, 1 dr.; water, - oz.; alcohol, 1 oz.; gum mastic, $\frac{1}{2}$ dr.; gum ammoniac, $\frac{1}{2}$ dr.

Soak the isinglass in the water for 24 hours, then boil it down one-half and add one-half of the alcohol and strain through linen while

hot; and then melt the mastic and ammoniac in the other half of the spirit, and mix the solutions thoroughly, and bottle for use. It can be used to mend any mendable article, by warming the edges and giving a light coat—too much is generally used.

3. Cement for Leaky Tin Roofs.—We applied a Cement of white-lead paint, whiting, and dry, white sand, to a small tin roof, 5 years ago, that leaked like a sieve; it soon became nearly as hard as stone, has never peeled off, and has kept the roof, since then, perfectly tight. It was put on about the consistence of thin putty.—*Scientific American.*

4. Slater's Cement for Stopping Leaks Around Chimneys.—Linseed-oil, whiting, ground glass, and brick-dust, all made very fine. It is good—a good one for joints of steps, at door fronts.

5. Another.—A very durable and cheap plan to prevent leaks about chimneys is to go to a painter and get his "paint skins," (a skin that forms on paint left standing for some time) with as much linseed-oil, and boil them together; and while hot, thicken, to a proper consistence, with clean sand, and apply at once.

6. Cement for Leather Belts.—A thick solution of isinglass with $\frac{1}{2}$ its bulk of mastic varnish makes a very considerable help in holding large belts before riveting. No. 5 will probably be preferred.

7. Cement—Proof Against Wet.—To make a Cement that will be proof against damp, or wet: Take pure india rubber, 1 oz.; naptha, 1 qt.

Cut the rubber in strips and put into the naptha, and stir the mixture often, until the rubber is perfectly dissolved. Let it stand about 2 weeks, until it acquires the consistency of cream; then having weighed the mixture, put it into an iron kettle, and add twice as much shellac, by weight, as of the mixture, and heat, stirring all the time, until melted and well mixed; then pour upon marble slabs, to cool, in the form of sheets.

When needed for use, melt it in the iron pot, by bringing it to a heat of about 250° Fah., and apply with a brush; laying weights upon the belts to press them as close together as possible.

Heat may be used to hasten the process, if great care is taken to avoid the naptha from taking fire, as it is very inflammable. The safest plan is without heat.

8. Cement for Cracks in Cast-Iron Kettles.—J. M. Benthall informs the *Scientific American* that he had used a Cement of glycerine, oxide of lead, and red lead, for mending a large cast-iron kettle that had been fractured across the bottom by allowing water to freeze in it, with the happiest results. It takes some little time to dry, but turns almost as hard as stone, and is fire and water-proof. The method was as follows:

"Take litharge, and red lead, equal parts, mix thoroughly, and make into a paste with concentrated glycerine, to the consistency of soft putty. Fill the crack, and smear a thin layer on both sides, so as to completely cover the surface. Rub off this layer, if desired, when nearly dry, by using an old knife, or chisel."

9. Cement for Iron, or Stone.—The *Mechanic's Magazine* mentioned a year, or two ago an excellent Cement for fixing iron, or stone, made by mixing together commercial glycerine and fine well-dried litharge. It appears this Cement was discovered by Professor Hirzel, of Leipsic. As a Cement for joining chemical apparatus, it offers

many advantages, for it is unaffected by chlorine, hydrochloric acid, sulphur vapor, sulphurous acid, nitric acid, and, indeed, resists most corrosive vapors. Further than this, it withstands the solvent action of alcohol, ether, sulphide of carbon, and all hydrocarbon vapors. *It hardens in from ten to thirty minutes if mixed of the consistence of a thick dough, and sets under water as quickly as in air.* Moreover, it will stand a very much higher temperature than any oil Cement, something like 500°. The Cement can be used in steam engines, pumps, and foundations for machinery. The proportion of glycerine and litharge to be taken must depend somewhat upon the consistency of the Cement, and its proposed uses. An excess of glycerine would retard the settings, as it does not readily evaporate. This new use of glycerine adds another application to a substance that only a few years ago was thrown away.

The following, from another source, I think from the *Scientific American*, confirms and supports No. 9:

10. **"Glycerine Cement.**—A Cement, said to be capable of use where resistance to the action of both water and heat, is required, is composed by mixing ordinary glycerine with dry litharge, so as to constitute a tough paste. For uniting the joints of steam pipes and other similar applications, this preparation is said to be very satisfactory."

11. **Cement for Plastering Cisterns on the Ground.**—Where the ground is not too gravelly, or sandy, so as to cave, or fall in, a good Cistern can be made by plastering on the dirt, or ground, as follows:

Good water-lime, 1 bu.; good clean sand, 2 bu.; or in these proportions.

Mix evenly when dry; then wet up and make into mortar, or Cement, only what can be put on before it sets.

12. **Cement for Emery-Wheels.**—A gentleman having 15 years' experience as a machinist, says there is nothing better than common glue—the best—for putting emery onto wheels, or belts. Using emery of the grade of coarseness desired.

13. **Cement for Mending Boots and Shoes.**—Take chloroform, as much as you choose, and put small bits of pure gutta-percha into it to dissolve to the consistence of honey.

It is well to do this in a bottle to prevent evaporation. Upon fine boots, or shoes, of pliable and soft leather, small patches may be put upon them that will give very good satisfaction. First prepare the patch by paring the edges very nicely; then scrape it and the place to which it is to be applied, to remove dirt and grease, then apply the Cement, to each surface, thoroughly, then heat the surfaces to soften the Cement, and then put on the patch and press it firmly to the boot, or shoe for a moment, until it sets. If neatly done it will hardly show, at all; and it will remain very permanent unless it is held to close to the fire.

This has been one of the devices followed by street-corner peddlars to make money. "Only 25 cents a bottle—who will have the next?" has often greeted my ear, in my travels. And they would ask only \$5, or \$10 for the Receipt.

14. **Cement for Marble and Alabaster.**—Ransome informs us that a valuable Cement for marble, and alabaster (of which vases are usually made) is composed as follows:

Stir up to a thick paste, by means of a solution of silicate of soda

(water glass); 12 parts Portland cement; 6 parts prepared chalk; 6 parts fine sand; 1 part of infusorial* earth.

An irregular piece of coarse grained marble was broken off by means of a hammer, and the surface coated by a brush with the above paste, and the fragment inserted in its place. After 24 hours it was found to be firmly set, and it was difficult to recognize the place of fracture. It is not necessary to apply heat.

I do not deem it absolutely essential to obtain the "infusorial earth," which, in some places might be difficult to obtain, yet worm feces from decayed wood, would answer the same purpose if it is essential.

15. Aquarium, or Fish-Tank—Directions for Making, and Cements For.—Mr. N. Hallock, of Long Island, in answer to an inquiry through the *Scientific American*, makes the following statement:

"MESSRS. EDITORS.—Your correspondent wants a good Cement for an Aquarium, or Fish-Tank. The following I have used 5, or 6 years:

"One part, by measure, of litharge; 1 of plaster of Paris; 1 of fine beach sand; and $\frac{1}{2}$ part of fine powdered rosin; mix all together. This may be kept for years, while dry, in a well corked bottle; when used, make into a putty, with boiled linseed-oil; a little *patent drier* may be used. It will stand water, at once, either salt, or fresh.

16. A Cheap Aquarium is made as follows:

"Cut a narrow groove in a board the size you wish; set 4 pieces of glass on edge in the grooves, put a piece of zinc in the bottom. Make a light frame, with grooves to correspond, for the top; pass a rod through the frame down the inside of the corners, through the bottom, and screw up tight; put the Cement in all the corners and joints, and you will have an Aquarium at a very trifling cost."

The principle is correct and if care is used in Cementing all of the joints and holes, there can be no failure.

17. Another.—White lead, and red, in equal parts mixed to a putty consistence with boiled linseed-oil.

The frame of the Tank should be made of tin or zinc, properly secured to prevent spreading, and the joints well Cemented and allowed to dry a day or two, according to the atmosphere.

18. A Cement to stop Cracks in Glass Vessels to Resist Moisture and Heat.—Dissolve caseine† in cold saturated solution of borax and with this solution paste strips of hog's or bullock's bladder (softened in water) on the Cracks of Glass, and dry at a gentle Heat; if the vessel is to be Heated, coat the bladder on the outside before it has become quite dry, with a paste of rather concentrated solution of silicate of soda and quicklime‡ or plaster of Paris."—*Scientific American*.

*The *infusoria* is the lowest class of animals, found in water, or watery infusion* which have been left to stand for some time. Their organization is so low that they are propagated by budding out upon the parent stock—no distinction of sex having been discovered in them. The Portland Cement, and the prepared chalk, and sand, made very fine, will answer every purpose, without the other.

†Caseine comes from the Latin *caseus*, cheese. It is that part of milk that turns to curd; hence, broken dishes have been, and may be mended by tying together firmly and boiling them in milk.

‡Quicklime is freshly burned and freshly slacked lime. The solution of Silicate of Soda is to be thickened with lime, or plaster of Paris.

16—DR. CHASE'S SECOND RECEIPT BOOK.

19. Pitch and Gutta-Percha Cement.—Take an iron dish, or kettle, and melt, by heat, common Pitch (such as used for picthing seams on boats, or vessels), 2 ozs. or lbs. according to the Cementing you wish to do; and Gutta-Percha half as much.

When melted stir well and pour into cold water, until cold; then wipe dry and keep for use, of course, melt again when used, so much as is needed.

This will hold, very firmly, if a dark color is not objectionable, wood, glass, stone, ivory, porcelain, parchment, leather, hair, paper, silk, woolen, cotton, feathers, and all other things, *except those seeking a divorce.*

12. Turkish Cement—For Water Pipes, etc.—Fresh hydraulic lime (water-lime), any quantity, according to the work to be done, and half as much pounded brick, or pounded tile, finely sifted,—by measure—and chopped tow to make it like our common hair mortar. Mix dry, as wanted for use; then wet up with linseed-oil (if it is boiled it will dry quicker) to the consistence of common mortar.

They use common earthen-ware pipes with socket-joints, to carry water from springs to reservoirs, and use this Cement for the joints. It makes them water-tight.

21. For Common mortar they use the hydraulic lime and pounded tile, sifted, in equal parts, with the chopped tow, and wet up with water—thoroughly mixing while dry, before wetting up, in either case.

22. Very Hard Cement is made with well-burnt brick powdered very fine, 93 parts; and finely pulverized litharge, 7 parts. Mix dry, and then wet up to the consistence of mortar with linseed-oil.

When used for joints in stone flagging, the stone, or marble should be wet first to prevent the oil from leaving the mixture too quick. It has been used for terraces, lining basins, for watering stock, etc., etc.; and would make a valuable Cement around chimneys, first giving a coat of thin paint, to cause it to take hold of the dirty brick and shingles, or other roofing.

CHESSPOOLS.—See DISENFECTIONANTS.

1. Charlotte Russe.—Russian isinglass, 1 oz.; nice sweet milk; $\frac{1}{2}$ pt.; 4 eggs; sweet wine, 1 gill; white sugar, 3 ozs.; thick cream, 1 pt. extract of lemon, or vanilla, and sponge cake.

Boil the isinglass in the milk, slowly, to reduce it one-half, and when cool, strain it, and add the flavor, and pour it into the beaten yolks of the eggs and sugar; then put over the fire again to thicken, but not to boil. Having beaten the cream to a froth with the wine, mix all, and add the beaten whites of the eggs; and having lined a deep dish with slices of sponge cake, pour in the "Russe."

2. Another plan is to use milk, 1 pt.; arrow-root, $\frac{1}{4}$ lb.; thick cream, 1 qt.; flavor as in No. 2.

The arrow-root is to be rubbed smooth with a little of the milk, cold, then thicken into the balance of the milk, with heat; and add the flavor, and while still warm, mix it into the cream whipped, and pour into sponge cake same as the first.

In either case, if in warm weather, to set the dish into ice, to get cold, makes an improvement, and if made with care will be very nice.

CHEESE MANUFACTURING—Its Processes and Progress.—The following quotations, the first from the *Scientific American*

of 1863, and the second from the *People's Journal* of 1871, will not only show the Process of Manufacture, but also show its Progress, and, I trust, give an additional impulse to Cheese-making, and also to the Manufacturing of Butter, which has been left too much in the background; for it is, undoubtedly, susceptible of being adopted as a Manufacture, in Butter-factories, as much so as that of Cheese; as in that case, the expense of milk-rooms and other fixtures to take every needed advantage, can so much better be afforded, than by the home-manufacturer, who only has a few cows. It seems to me that the *Butter* branch needs more attention than it is receiving at the hands of those most interested—the farmers. But, as I have discussed that subject under its appropriate head, which see, I will proceed to the point of Manufacturing Cheese. The following will show that even as late as 1863, the Manufacture of Cheese was at rather a low ebb. The editor says:

"We were lately informed by a very intelligent farmer of Northern New York, that the Manufacture of Cheese, when properly conducted was a very profitable business; 'but,' he added, 'there's more bad Cheese than bad Butter made, and there's more than enough of that.' For some years past, large quantities of the best American Cheese has found a ready sale in Great Britain; in some sections of which, Cheese is used to a great extent, as an article of daily food, by both rich and poor. We have been credibly informed that almost all the best American Cheese is exported—the inferior qualities being kept for home use. A few remarks on the subject will not be unprofitable at present, as this is the season (August) when most of our farmers set about making Cheese.

"The principal substances in milk are the fatty, or Butter parts—milk-sugar, and caseine. The latter is really the Cheesy part; but Cheese of the best quality likewise contains a considerable portion of the *Butter*, and some of the milk-sugar. The Cheesy portion of milk is separated from the liquid by coagulation (thickening)—a chemical operation, which is performed to-day as it was hundreds of years ago. The mode of producing this result was undoubtedly an accidental discovery.

1. "*It consists of stuffing the stomach of a sucking calf, an unweaned lamb, or a kid, with salt, and suspending it in a dry situation for several months.*

"This prepared stomach, called the *rennet*, when steeped in water, produces a decoction" (watery extract) "which possesses the power of thickening milk—decomposing it, and separating the caseine from the liquid, or whey.

2. "The most convenient way to prepare the rennet for use, is to place the stomach in a stone-ware jar with 2 handfuls of salt; pour about 3 qts. of cold water over it, and allow the whole to stand for 5 days; then strain and put it into bottles. *A table-spoonful will coagulate about thirty gals. of milk.*

"The milk of which Cheese is made, is heated to about 90° Fah. To every 30 gals. a table-spoonful of the rennet is added and stirred. In from 15 to 60 minutes the milk becomes coagulated—the caseine separating in a thick mass. The rennet possesses the chemical property of producing lactic acid" (lactic acid comes from the Latin *lac*, or *lactis*, milk) "by acting on the sugar in the milk. The acid unites

with the soda in the milk, which holds the caseine in solution; when the caseine, which is insoluble, separates, forming the curd.

"The quality of Cheese depends chiefly upon the milk of which it is made; the best, containing a considerable portion of the constituents of Butter.

"The Stilton Cheese of England, and the Brie Cheese of France, have a world-wide reputation; and are made from *fresh, sweet milk, mixed with cream*, skimmed from milk of the preceding evening.

"The Cheshire, double-Gloucester, Cheddar, Wiltshire, and Dunlop Cheese of Great Britain" (the Dunlop is more particularly of Scotland), "is made of sweet *unskimmed* milk, as is also the best Holland and American Cheese. It is frequently, however, made from milk obtained at *two* separate milkings, though it is believed that the *best* Cheese is made from that procured at *one* milking; as it is supposed that *cream*, which has been separated from cold milk after standing several hours, *can not be intimately mixed with the milk again*; and that, consequently, much of it will be removed with the whey. *This is a very important consideration for those engaged in the production of Cheese.*

"Skim-milk yields *nearly* as much Cheese as sweet milk, as it contains *all* the caseine.

"The Dutch, the Leyden, and the hard Cheese of Essex and Sussex counties, in England, are made of milk *thrice* skimmed; and they are excellent for *sharpening teeth*, and would *try the temper* of a good American axe.

"In making Cheese, a thermometer should always be used to test the heat of the milk, which should *never* be raised above 95° Fah., otherwise the curd will be *hard and tough*. If the milk is cold—much below 90° Fah.—the curd will be *too soft*, and difficult to free from the whey. Perhaps the best and safest way to heat the milk is in a *tin vessel, placed in a cauldron of water heated to 95°, to which temperature the milk should be raised before the rennet is added*. Whenever the milk is fully coagulated, the whey should be strained from it.

"In Cheshire,—famous for its Cheese—great attention is paid to the removal of the whey; which is done very slowly, *and with slight pressure until the curd is pretty hard*; the latter is then cut fine, in a machine, and prepared for the press.

"The curd of the celebrated Stilton Cheese is not cut at all; it is pressed very gently till all the whey drains out, *so as to retain all the Butter in it*.

"In Belgium, a rich Cheese is made by adding Butter, $\frac{1}{2}$ oz., and the yolk of an egg to every pound of cut curd.

"About 1 oz. of the best salt is mixed with every 2 lbs. of the cut curd, which is then placed in a cloth secured in the Cheese-hoop, and submitted to pressure; and the quality of Cheese depends on *having all the whey pressed out*; to do which, it is turned upside-down several times, and allowed to remain in the press *until no more whey can be got out of it*.

"Cheese, when taken from the press, should be rubbed over the entire surface with good Butter, and placed in a cool, airy room, *upon a smooth, flat stone, or polished slab of marble*, if possible. It requires to be examined, and turned daily, for some weeks afterwards, and occasionally rubbed with Butter. Annotto is frequently employed to

color the outside of Cheese, but this is a practice which ought to be condemned" (and I am glad to say, not much done of late).

"Cheese of an inferior quality, may be inoculated to some extent, with the flavor of any rich Cheese, by introducing a small portion of the latter, into the interior of the former, with a common Cheese-scoop. Old Cheese sells in England at several cents per lb. higher than new Cheese. It acquires, by age, that peculiarly sharp pungent taste so pleasing to the palate of the Britisher."

This shows about the condition of the Cheese trade 10 years ago; and undoubtedly was the means, by its hints, and suggestions, of doing much to bring up the Cheese manufacturing business to its present superior standing, as represented by the following statistics, given by the *People's Journal*, of Philadelphia, for 1870. Under the head of Cheese, it says:

"Butter and Cheese-making has been a diffused industry in many countries, from the earliest times; but it remained for American inventiveness to give concentration to the work and show the nations how best to do it. In 1853, we exported to England 1,000,000 lbs. of Cheese; in 1860, we sent her 50,000,000 lbs. In the same year we imported nearly 1,500,000 lbs. to supply our own requirements; but in 1870, so ample and excellent had our supplies become that we did not require to import a pound.

"It is comparatively but a few years since farmers in New York State, seeing the waste of labor necessarily consequent on each small farmer being his own Manufacturer of Cheese and Butter, commenced to form labor-saving co-operative factories, where one set of workmen would do the work of many, and where, by affording superior facilities and giving special attention, the quality of the product might be improved. The movement was completely successful, and at this day the number of these co-operative factories in the State is more than nine hundred, with a supply of milk from 250,000 cows; every 3,000 cows affording 1,000,000 lbs. of Cheese, valued at \$140,000, or more than 300 lbs. of Cheese, and 300 gals. of milk for each cow. Of this large number of factories:

	Factories.	Cows.		Factories.	Cows.
Oneida county has	94	30,000	Eric county has	54	20,000
Jefferson " "	72	25,000	Otsego " "	46	15,000
Herkimer " "	70	25,000	Orange " "	44	14,000
Madison " "	66	20,000	Other counties have	440	110,000
Oswego " "	58	15,000			
Totals,	944	249,000			

As to the other States:

	Factories.	Cows each.		Factories.	Cows each.
Ohio has	80	500	Michigan has	22	400
Illinois " "	50	400	Pennsylvania " "	14	200
Wisconsin " "	34	250	Other States, " "	25	
Vermont " "	32	400	Canada, " "	34	
Massachusetts	26	250			
Totals,	317				

"So that on this continent we have now, after a comparatively few years of work, nearly 1,300 Cheese and Butter factories; supplied with the milk of more than 300,000 cows, and producing about 100,000,000 lbs. of Cheese annually. Our export of the product of this new industry, or old industry in a new form, was last year the large amount of 57,000,000 lbs., valued at \$8,000,000, while the whole export from Britain, of her Cheese, is little over 3,000,000 lbs. Even the

Dutch, who have made a specialty of Cheese for centuries, and who in their varieties adapt their article to many tastes and markets, exported last year only half the quantity we did. When this experiment was commenced the European Cheeses had all their special markets and special customers, who took them regularly, and would not be induced readily to make a change, while the previous character of American Cheese was not in its favor, but rather the contrary. We had, therefore, nothing to look to for success but the superiority of the article at the price, and in less than twenty years, with everything rather against than for us, *we have surpassed England in the world's markets, and are at this day selling nineteen times as much Cheese as she is able to do, with all her prestige and previous fame as a Cheese producer!* In all the history of progress there is no parallel to this adaptation of fitting means to needed facilities. Switzerland, from a kind of necessity imposed upon it by the peculiarities of the Alpine pastures, had had a kind of coöperative Cheese-making before we commenced it; but it was and is of small account. Our coöperative arrangements enabled many single workers with but indifferent success, by that union which is strength, to become a great power for supplying the world with two prime articles of family consumption, and for doing it well. Our triumph, however, is not yet quite complete. Before it is so we have got to do one of two things, or both; that is, to produce a Cheese which will surpass in its attractive qualities the favorite products of all other countries, or to produce Cheeses so nearly approaching these favorites in qualities as to compete with them successfully.

"Among the chief of these favorite Cheeses is Stilton, the highest-priced, which is made chiefly in Leicestershire, England, from the cream of one milking being added to the new milk of the next. The weight seldom exceeds 12 lbs., and two years are required to mature it.

"Parmesan, the most famed of Italian Cheeses, is a product of the richest pastures of the Milanese territory. It is made from skim-milk, weighs 180 lbs. each, and requires the milk of 100 cows for each Cheese.

"Cheshire Cheese, one of the very best of English Cheeses, is the product of the poorest land. Its weight is often as high as 100 lbs.; and 1 lb. of Cheese to each cow daily throughout the year, is considered a fair average yield.

"Gouda, the best Holland, is a full milk Cheese and weighs about 15 lbs.

"Gruyère, a celebrated Swiss variety, possibly owes much of its distinguishing character to the peculiarity of the Alpine pasture. It is made of milk skimmed, or not skimmed, according to the kind of Cheese desired.

"Cheddar Cheese is made chiefly in Somersetshire from milk in which all its own cream is retained, and Gloucester is made from milk deprived of part of its cream. "Double" and "single" Gloucester, are terms applied in reference to size and not as to quality, the one being twice the thickness of the other.

"Dunlop Cheese is the choicest Scottish product, and made much in the same way as Cheshire.

"The Suffolk Cheese is made from skim-milk, and weighs 25 to 30 lbs.

"The Edam Cheese of Holland owes not a little of its popularity

to its smallness and form. In making it at certain seasons the milk is partly skimmed; the Cheese is colored a yellowish red for the English market and red for the French; the weight is about 4 lbs., and each cow in Summer is expected to yield 200 lbs. skim-milk Cheese and 80 lbs. of Butter.

"The Roquefort is the chief Cheese of France. It is made from the milk of sheep and goats half of which has been skimmed; its weight is 4 to 5 lbs., and it is believed to owe much of its peculiar character to the *natural vaults*, or fissures in the neighboring rocks, where the ripening is performed, and which are constantly filled with cold air from subterranean recesses.

"These special favorites are those which bring the best prices, and Wisconsin has commenced the right policy for America, by ascertaining how these favorites are made, and making them so as if possible even to surpass the genuine original article in its peculiar excellence. It only requires a few intelligent, persevering men, or women to set themselves to do it, in order to secure that in a very few years we should be sending Stilton's to Leicester and Edam's to Holland, and the best variety everywhere. In all dairy management, in order that the maximum of success may be attained, the whole of those things from which profits accrue and which dovetail, or fit into each other, as it were, must be carried on simultaneously.

"A very large part of Cheese, and possibly the best paying part, is made from skim-milk.

"A Butter Factory should always accompany the Cheese Factory, and is perhaps, the best paying part of the farmer's work. Again, the whey of every two cows will keep, or nearly keep, one pig, and therefore, a pork department is a necessity, and one in which the produce is nearly all profit and good prices always readily realized.

"Again, some cattle will pay better to fatten for the butcher than to milk, and there should be a beef department for this purpose. The feeding of such cattle is scarcely a perceptible addition to the expense of the establishment, and the price on sale is a very substantial gain."

Let us go on then, until we not only make *better* Cheese than all the rest of the world; but *more* of it also, and *bring up* Butter to the *high standing* to which our Cheese has already attained; then shall we have reason to hold up our heads on the Butter question, while, as yet, the *majority* of our Butter is quite inferior.

2. To Cheesemakers—An English Groan, Encouraging to American Manufacturers.—The following groan, as recorded in the *English Milk Journal*, for September, 1871, in regard to the introduction of American Cheese into their market, is very significant and should encourage our Cheese Manufacturers to increased efforts to beat them in their own markets. The *Journal* says:

"We would draw especial attention to our report of the Cheese market this month. We do not think there is any cause for alarm, yet the present state of the Cheese trade is significant. Such words as 'the American are absorbing all the demand,' 'Dutch, like English, is being driven out of consumption,' have, to say the least, not a very cheerful tone. We can not question the authority of the very eminent firm of Cheese Factors from whom we obtain our monthly reports. We have no wish to create a panic among English Cheesemongers, but we can not suppress the information afforded us, and

therefore print it *verbatim et literatim*. There is no very immediate danger in the American competition; but it behoves us to be on the alert, and to produce Cheese at the least possible expense, and of the very best quality. The success of America is to be attributed to the extensive organization of her Cheese Factories, whereby division of labor is effected, a large working capital used in the Manufacture of Cheese, and an uniform good make produced, by converting milk into Cheese on a large scale; and by the employment of skilled labor under the superintendence of scientific, enterprising commercial men. The system which has done so much for America can undoubtedly do a great deal for us, and enable us to maintain our ground against all comers. We therefore watch, with a daily increased interest, the success of Cheese Factories in our own country," (England).

All I can say to this, is, let them "groan" so long as we can beat them in making their own *choice brands* of Cheese.

3. Swiss School of Milk Production and Management.—The *Swiss Mountain Union*, which has for many years been interested in the Milk business, has issued a circular in which it claims that the Milk production and the care of the mountain pastures are the inseparable factors of the nation's wealth. The only article of export is Cheese, which was exported in 1868 to the value of 18,674,832 francs, and in 1869, to 21,453,796 francs. The increase of Milk products in other parts of the world is alluded to. American Factory Cheese, an imitation of the English Cheshire, is rivaling its prototype in its home market. Sweden and Denmark have established extensive dairies, while Holland, which controls the Cheese trade of the world, has established at Utrecht a perpetual exhibition of dairy utensils, etc., for the instruction of dairymen. The Austrian minister of Agriculture has given two annual prizes for the benefit of Cheese Factory associations, while in Vorarlburg, Tyrol, Bavaria, Italy, and Prussia, the latest facts, principles, and improvements are disseminated by means of itinerant lecturers, fairs, exhibitions, and publications. It is proposed in Switzerland to adopt this policy in the organization of a School of theoretical and practical instruction in Milk production and Management. For this purpose, funds are to be raised from the cantons, agricultural societies, and individuals. Great results are anticipated from this enterprise.—*Scientific American*.

4. Cost of a Small Cheese Factory.—Hoping that what has been said upon the subject of Manufacturing Butter and Cheese will induce some farmers to desire to engage in it, I will give them an idea of the necessary expense to make a fair beginning; and probably the following from the *Manufacturer and Builder*, will show the items with more satisfaction, and in less words than most of the articles which have been given. It says:

"For 100 cows, a building 60x26 feet, with 16-foot posts, making it two stories, would be required. Take 24 feet from the lower story for a 'make-room,' leaving the remainder and the upper story for 'curing rooms.' The upper story should be partitioned the same as the lower. The 24-foot room over the 'make-room' should be plastered and furnished with stoves suitable for curing early and late Cheese. The cost depends upon the price of lumber and labor, which differ in different localities. A rough, substantial building which will answer in every respect in most localities, would cost \$1,000. If finished with paint, etc., \$1,300. It could be furnished with vat, tank, presses, hoops, scales,

etc., for \$300, making in all \$1,300 for rough building, and \$1,600 for the finished one. For 200 cows the same sized building would answer. For valves and fixtures, \$500, making, in all, \$1,500 for rough, and \$1,800 for finished building. This is the size of many that were built in this State" (New York) "this season. Stock companies are formed by those interested taking one or more shares, which may be \$50, or \$100 each. A committee is chosen by the shareholders, who superintend the building of the Factory, hiring of help, etc. A dairy of 100 cows can be managed by a man of experience with additional help, which could be hired at from \$2 to \$3 per day and board. For 200 cows he would want an additional hand, which might be a woman, and inexperienced. The question is often asked: How many cows must a Factory number to pay? For an individual to build a Factory to work up milk for others at \$2 per hundred, which is the common price of making and furnishing the Cheese all boxed and ready for market, he would want 300 cows, or more, to make it a paying business."

I will close this subject with only a word more, and that is this, let no one enter into this business unless he has the necessary experience himself, or can take time to go to a first-class Factory and learn all the particulars, or is sure that he can get an *experienced* hand to manage it. With the *necessary knowledge* it is a *paying business*.

CHESTNUTS—To Plant for Timber and the Fruit.—In regions of country where timber is scarce, probably, there is no other tree that will give as good satisfaction in speed of growth, and value of timber as the Chestnut; and although it is best to plant the Nuts where you desire them to grow, for purposes of cutting for the timber, at the same time you can plant a few, near the house, to be cared for more particularly for the sake of the Nuts,

The following item from the *Hearth and Home*, will satisfy the people as to the advantages, and probable success of the undertaking. It says:

"No timber is better worth planting in fence-rows, kitchen yards, waste places, or in regular plantations than Chestnut. For posts, rails, pickets, stakes, or lumber, no timber is more salable, grows quicker, or realizes a better proportionate price. For shade, Chestnut-trees are excellent; dense, spreading, and handsome in foliage. Once planted, they need no further attention, and when cut down reproduce themselves abundantly by means of sprouts. We have cut Chestnut sprouts eight years old, that were large as long enough for four round posts, or six, when the two lower ones were split, and one rail besides. At this age they are large enough to split into two heavy rails, worth, now, six to eight cents each in a timber country. We can not just now think of any crop that would pay better than a few acres of thrifty Chestnut sprouts. There is but one disadvantage, which is that Chestnuts don't stand transplanting well. They should, therefore, be planted where they are desired to grow. Probably the best way to make a plantation is to plow the ground in the Fall, and mark out furrows six feet apart each way, and at the intersections drop three Nuts; cultivate the ground one year, then seed down to grass. The grass and the shade together will keep out weeds, and the close planting will cause the young trees to shoot up straight and lengthy. In five years a good many rails can be cut out, leaving one tree at each place. In a few years the plantation will need thinning

again, and sprouts will have taken the place of those first cut out."

CHLOROFORM—As a Solvent and Anesthetic, or Producing Insensibility to Pain, and as a Renovator.—Chloroform is the best known solvent for camphor, resins, sealing wax, and gutta percha; it also dissolves the vegetable alkaloids, strychnia, morphia, quinia, etc., in large proportions, and is very useful as a local anesthetic in allaying the pain of toothache; *as a solvent it will remove greasy spots from fabrics of all kinds*, but its chief use is as an anesthetic (rendering insensibility), of which kind of medicinal agents it is the type. There are several other volatile organic bodies which possess similar properties, but none, so far as we have been able to discover, produce the total unconsciousness and muscular relaxation that follow the inhalation of Chloroform.

It has been customary to pour Chloroform upon a handkerchief and hold it a little distance from the face, in administering it, but the English surgeons have more recently adopted the plan of laying the handkerchief over the face, and drop it on, drop by drop, claiming that it is less dangerous; and, they have reported a case that was kept in this way, 10 hours without injury. The danger, undoubtedly, arises from the patient getting too large an amount at once, by the old plan, when, by the new, or "drop by drop," plan, the amount, although sufficient, is not an over-dose.

1. CHOLERA, CHOLERA-MORBUS, COLIC, AND PAINFUL DIARRHŒA—"Very Valuable" Remedies.—Oils of cajuput, cloves, peppermint, and anise, of each, 1 oz.; alcohol, 4 ozs. Mix.

Dose.—From 10 drops to 2 tea-spoonfuls, according to the severity of the case, as explained below.

"This is a very valuable stimulant and antispasmodic preparation, and has been successfully used in Colic, cramp, of the stomach, or elsewhere, flatulence" (gas, or wind, in the stomach, or bowels), "pains in the stomach, or bowels, Painful Diarrhœa, Cholera-Morbus, Asiatic Cholera, and in all cases where a stimulant and antispasmodic action" (opposed to spasms) "is desired.

"During the Cholera of 1849-50-51, it was extensively used in Cincinnati, for the purpose of overcoming violent spasmodic action, in the dose of 1 to 2 fl. drs." (1 dr. is about 1 common tea-spoonful), "every 10, or 15 minutes; one or two doses generally succeeded in relieving the pains and spasms when all other means failed.

"The ordinary dose is from 10 to 30 drops, in simple sirup, mucilage of slippery-elm, or in hot brandy and water sweetened. Care should be taken not to introduce too much of this preparation into the stomach at any one time, as a large amount of it would produce inflammation of the stomach. It is, however, a very valuable agent, when properly used, and should be always kept by every physician and druggist."—King.

This was formerly known as Hunn's Life Drops.

2. Another—Dr. Bond's Cure, of Philadelphia.—Dr. Bond, of Philadelphia, used to depend mainly upon the following emetic, in Cholera:

Salt, 1 table-spoonful; and cayenne pepper, 1 tea-spoonful; put into luke-warm water, $\frac{1}{2}$ pt., and given for a dose.

To be repeated if a cure was not speedily effected. In cases where much fruit, or other green stuff, as cucumbers, melons, etc.,

had been eaten, or was the cause of the commencement of Cholera, this would be very good.

CHOLAGOGUE, OR BILIOUS TONIC.—Quinine, 1 dr.; oil of wintergreen, 1 tea-spoonful; oil of peppermint, 5 drops; oil of lemon, 15 drops; alcohol, $\frac{1}{2}$ pt.; water, $\frac{1}{2}$ pt.; sulphuric acid, 30 drops. Mix well, then add red Peruvian bark, finely pulverized, 2 ozs.; rheubarb root, also finely pulverized, 1 oz.; simple sirup, or molasses, to make all 1 qt. Those who are acted upon easily by cathartics can not bear more than half of this quantity of rheubarb. Let such have it made accordingly—the object of its use is to just keep the bowels solvent, not loose like diarrhea.

The quinine, oils, and acid, should be put into the alcohol first, then the water, and afterwards the bark and rheubarb, and then the sirup; or what would be a little more palatable, would be to steep the Peruvian bark and rheubarb root in as little water as will answer, then strain off into the mixture and steep again, to get all the strength, by pressing out the second time; then make up the qt. with sirup, as this avoids the sediment of the bark and root in the taking of the medicine, as some people object to taking the medicine with the powders in it. It may be taken at once, if well shaken; or, if shaken 2, or 3 times daily for a week, after that it may be taken without shaking, as the strength of the Peruvian bark and rheubarb, will, by that time, be extracted.

Dose.—For an adult, 1 to 2 tea-spoonfuls 4 times daily, at meals and bed time; for a child of 12 years, half dose. If very bilious and costive, take a full cathartic dose of rheubarb, or such other cathartic medicine as you are in the habit of using, or prefer, to move the bowels freely.

This will be found a very valuable *tonic* in all cases requiring one; and will break up 99-100 of all the agues, and remittent fevers, in a few days, if not, repeat the cathartic, and continue the Cholagogue until the work is accomplished—never try to “wear out the ague;” it will either wear *you* out, or make you “the *worse* for wear.” Repeat at intervals of a week, 2, or 3 times; and in nearly every case, a permanent cure will be effected, if the medicine is taken for 3, or 4 days at each repetition.

1. CIDER—Its History, Manufacture and Best Methods of Keeping, in Europe and the United States.—Cider and perry are of great antiquity. Plinney speaks of them as the wine of apples and pears. The Moors of Biscay, first introduced the manufacture of Cider into Normandy, from which it extended itself into other French provinces, and finally to England, Germany, Russia, and America. And at the present time, that made in Normandy, Herefordshire, England, and in the neighborhood of Newark, N. J., is considered the best.

2. The mere mechanical manner of making Cider is too well known to need any particular description; and the only caution, or hint necessary to be given, here, is that the plan of putting water upon the straw, or pomace, as practiced by many, is not to be allowed if you desire to make good Cider, and wish to have it keep well—no water at all should be used.

3. Very much of the excellence of Cider, also, depends upon the temperature of the cellar in which the Cider is placed for fermentation; but as a general thing, except by regular Manufacturers and

dealers in the article, this point is entirely overlooked. As soon as the apple-juice is pressed out, it should be poured through a common wire sieve, coarse cloth strainer, or something of this character (a hair cloth sieve is the best of all), to free it from large pieces of pomace, straws, etc., then be immediately put into a cool cellar, where the temperature is not above 50° Fah.; for, if left, as it frequently is, in the Cider mill, or some other situation, exposed to the full heat of Autumn, much of the alcohol that is formed by the fermentation, which decomposes the sugar, that is in the fruit, and turns it into the formative process of vinegar making by the absorption of the oxygen of the air, giving the Cider a peculiar roughness, called *sour*, after which only "topers" like it, while, on the other hand, if it is put into the cool cellar, of the temperature of about 50° Fah., nearly the whole of the natural sweetness of the fruit is converted into alcohol, which remains as such, helping to preserve the Cider, instead of undergoing the process of acetification—like acid.

Leibig informs us that "the acetous" (acid making) "fermentation, or the conversion of alcohol into vinegar proceeds most rapidly at a temperature of 95° Fah., and at lower temperatures the action becomes slower, until at 46° 50' Fah., no such change takes place."

Vinegar manufacturers, as well as Cider makers will do well to give heed to these facts, if they wish to make good articles with the least possible trouble, or labor; for independently of the differences in fruit, the *difference of temperature* at which Cider is allowed to ferment, is the principal cause of the superiority of the Cider made by one person over that of another, in the same neighborhood. One puts his in a cool cellar, and the other, perhaps lets it stand in the mill, or barn, where it soon becomes *sour*, passing the possibility of ever being made what is called *good Cider*, i. e., sweet and palatable.

4. It is well known that a rough tasted, sour apple, even crab-apples, make the best Cider. This arises from the presence of more malic acid (from the Latin *malum*, an apple—apple acid), the presence of which prevents, or greatly impedes the conversion of the alcohol, which arises by the fermentation, into acetic acid, or vinegar; but still splendid Cider may be made out of the more common apples, *if the caution of the low temperature is observed in its fermentation.*

5. It is as important that apples should lie in the orchard, or in the barn, for a couple of weeks, to mellow and mature, after they are gathered, as it is that they should be ripe when gathered, for by this mellowing process, much of the mucilage, or sweetness of the apples, is decomposed, and changed into alcohol and carbonic acid, by which the flavor and keeping qualities of the Cider is much improved; and also, that all rotten apples should be thrown out, for they give a bad flavor to the Cider, and also prevent the pomace from settling before racking off, by which means the clarification, or cleansing of the Cider is perfected. Unripe apples should also be avoided, as they contain scarcely any sugar, or saccharine matter, while they also add to the tendency of the Cider to become *sour*.

6. The question is often asked, why does not apple-juice make as good a wine as that made from grape-juice? The answer is as simple as the question—because the juice of apples *does not* contain as much sugar in proportion to the amount of acid and nitrogenized matter as grape-juice does; but this can be remedied to a very great

extent by the addition of sugar; and West India sugar is said to be the best.

But, since writing the above paragraph, I have been down into my cellar and tested the condition of Cider, and Cider Wine, that I put up last November (this writing is October 25, 1872), with common crushed sugar, and I find both of them very nice indeed. The Cider was allowed to work two weeks with the bung out before the sugar was added; it was then thoroughly dissolved and put in, and the bungs driven. What I call Cider, I put in $\frac{1}{2}$ lb. to each gal., and to the wine 1 lb. to each gal. using *new* barrels, and not having even racked, or drawn off the Cider as yet, that however, is a little sourer than I like, but not more so than many would prefer, but the wine is splendid, yet, a year or two more will add to its richness, even 5, or 10 years will still improve it if bottled. At the same time I was testing the Cider and Cider wine, I tested also a tomato wine which my wife made *twelve* years ago, from the pure juice of the tomato with sugar, 1 lb. to each qt. and it is now equal to any *port*, at least for me, but some persons who dislike the tomato-flavor might not like it as well. This proves that sugar, and a cool cellar with clean casks, or barrels to store Cider in, will make good Cider, or good Cider wine, and, also, that other fruits as well as apples, and grapes contains the elements, or foundation for a good wine, so that any family who needs a wine may make it, of the strength desired, according to the amount of sugar added, and the amount of *water not added*, for I would not have a drop of water used in making either. The wine although not bottled, was racked, or drawn off, and the barrel cleansed of the sediment, at the time the sugar was added, after two weeks fermentation.

Cooley, in his "Cyclopedia of Practical Receipts" (English) says: "I have tasted Cider made in this way" (i. e., by adding good West India sugar), "and that had been stored in fresh emptied rum puncheons, that had all the pungency and vinosity of *foreign* wine."

I think that the $\frac{1}{2}$ lb. of sugar to the gal. would be as much as most persons would desire, but the more that is used the more alcohol, or spirit strength will be developed.

7. English Method of Keeping, or Management of Cider.
—The same author, Cooley, informs us, under the head of the Management of Cider, that it "should be stored in a cool place, and should not be drank before it becomes sufficiently mature. To improve the flavor of a hogshead" (63 gals.) "1 $\frac{1}{2}$ gals. of good brandy, or rum are frequently added, with 2 ozs. of powdered catechu, dissolved in water, 7 lbs. of good moist sugar, or honey, $\frac{1}{2}$ oz. each of bitter almonds and cloves, and 4 ozs. of mustard seed. These must be well rummaged" in (stirred well with a suitable stick, in the bung hole), "and occasionally stirred up for a fortnight, after which, it must be allowed to repose for 3, or 4 months when it will usually be found as bright as wine. Should this not be the case it must be fined with a *pint* of isinglass finings,* or a dozen eggs, and in a fortnight more it will be fit for use. If the Cider be preferred pale, omit the catechu, and instead of the isinglass, fine with

* Isinglass finings are made by steeping 1 oz. of isinglass in water, 1 pt., then thinning this with a qt. or two of the Cider, or wine, in which it is to be stirred, or as the English man calls it, "rummaged in."

a quart of skimmed milk. If wanted of a light reddish, or rose tint, use $\frac{1}{2}$ oz. of powdered cochineal,* and omit the catechu" (but a very little alum would be needed to set the color of the cochineal).

8. "Preparatory to bottling Cider, it should be examined, to see whether it be free and sparkling. If not it should be clarified in a similar way to beer" (with the isinglass, eggs, or milk, as explained in No. 7, above, and in the notes), "and left for a fortnight. The night before it is intended to put it into bottles, the bung should be taken out of the cask, and left so until the next day, when it may be bottled, but not corked down until the day after, as if this be done at once, many of the bottles will burst, by keeping. The best corks, and champagne-bottles should be used, and it is usual to wire and cover the corks with tin-foil after the manner of champagne. A few bottles may be kept in a warm place to ripen, or a small piece of lump sugar may be put into each bottle before corking, if the Cider be wanted for immediate use, or for consumption during the cooler portion of the year, but for warm weather, or for long keeping this is inadmissible. The bottled stock should be stored in a cool cellar, when the quality will be greatly improved by age. Cider for bottling," he closes by saying, "should be of good quality, and at least 18 months old."

9. I am well satisfied, however, and especially so, unless the cellar is very cool, in which it is kept, that Cider should be drawn off from the pomace and the barrel cleansed as soon as the fermentation ceases, and the pomace has settled, leaving the Cider clear. This, it will be observed below, is the plan at Newark, New Jersey, where, in all probability, more attention is paid to the Manufacture of Cider, than in any other place in the United States; and there are some manufacturers there yet who make a very nice article; but, it will be seen also by the following item from the Newark *Advertiser*, that the trade is being largely interfered with by *base counterfeiters*. They have, heretofore, held a very high reputation for the manufacture of a pure article, taking great pains in the selection of their fruit, using only perfectly ripe apples which have been allowed full time to mature, or mellow after being gathered, freeing them from rotten apples, even washing them when there were many rotten apples to stick to the surface of the sound ones, by which means they have been enabled to ship large amounts to England, at a paying price; but now the *counterfeiters there*, and the *Cider doctors in England*, are becoming so extensive, that the "New Yorkers," it would seem, have but a poor chance for even a *pure* apple champagne—swindling being the order of the day. The article referred to, runs as follows:

"Those engaged in the business of Manufacturing Cider, say that the quantity made this year" (1870) "will exceed the total amount that has been made within the last 12 years; and, judging from the amount turned off at some of the largest presses near Newark, the whole produced in Essex county can not fall short of 1,000,000 gals. This, of course, is the result of an enormous crop of apples. They lie now in the orchard, piled up by the cord.

"The Cider made in this vicinity during the season up to the first of the present month" (November) "has been put in large casks for

*If the Cochineal Coloring is used, steep the amount given, in water, 1 pt. strain it, and thin it with some of the Cider, or wine, before putting it in, the same as the "isinglass filings."

vinegar, and is sold in Newark to inn-keepers, grocers, and saloons in small casks. From this time forward, however, the bulk of the crop will be prepared for a beverage, stored for bottling, or sold to wine markets. Our largest Manufacturers have more orders than they can fill for pale Cider, as that makes the best champagne. *All Cider for drinking is allowed to ferment, and just when the fermentation ceases it is racked off into another cask. If allowed to stand after fermentation it sours.* It goes through the racking process three, or four times, till all the sediment is extracted. Fish sounds" (the air-bladder from which isinglass is made) "and isinglass in a state of solution at the last racking give it the requisite clearness for champagne, and convert it into what is known as *clarified Cider*.

"To get champagne, all that is necessary is to give the Cider the quality of grape-juice, which contains sugar, carbonic acid and alcohol. Granulated sugar is dissolved, and the solution, with a little alcohol, is put into the cask. Then an apparatus similar to a soda-water fountain is set to work. A copper cylinder, containing whiting, or chalk, has over it a little globe connected with it by a tube. The globe contains vitriol, which, being dropped upon the whiting in the cylinder, generates carbonic acid gas" (this is the same plan that is pursued in making the carbonic acid gas that gives life and sparkling activity to the "pops" so extensively sold in the cities, the plan is correct, and the gas is healthy). "Another cylinder, with a crank, receives the Cider, and the gas being let in through a tube, the crank is turned and the gas thoroughly mingled with the Cider; after which it passes through a long pipe into bottles stood in a machine which forces in the corks without admitting the air. The mixture, after receiving proper French envelopes, is neatly packed in baskets and carted to Broadway and other stores, where it is retailed from \$8 upward, per dozen quart bottles. Cheap European wines are generally mixed with the Cider in this process; and an immense quantity of champagne manufactured in this country is made from Rhine wine and Cider.

"A well-known and reliable bottler in Newark states that he was solicited a few years since to enter into this business, and made acquainted with the whole secret, but declined. A 30-gallon cask of Cider at 20 cents per gallon, costing \$6, by this process, yields in champagne \$360, with a trifling reduction for loss, labor, bottles, etc. *Reliable men in bottling Cider say that it is their belief that nine-tenths of the champagne drank in this country is Manufactured from our native Cider.* Large cargoes of poor Cider are taken to England, sugared, mingled with bad, low-priced wines, and receive an infusion of logwood, or other coloring matter, and come back to us as neatly bottled port and other colored wines. Wine that becomes dead and sour, is fixed up by mixing in Cider, which produces fermentation. This business is carried on extensively in this immediate vicinity, Brooklyn, New York, etc.

"Our Newark bottlers complain that of late years, bottling pure Cider has not paid them, on account of the great competition of a villainous mixture made and sold for bottled Cider. The long ropes of dried apples that used to grace the rafters of every farmer's kitchen and furnish abundant and cheap material for pies, when green apples were scarce, formerly sold by the bushel, are now doled out by the pound at the price of foreign dried fruits. The bogus Cider makers

buy up all the dried apples within their reach and soak them. The water is fixed up with alcohol, simple sirup, and carbonic acid, bottled and sold for Cider. These bottlers are able to undersell those who make the genuine. *What is called champagne Cider is a pure article clarified with fish sounds, isinglass, etc.* Laying down the bottles makes the fluid lively, but it often bursts the bottles. Good, pure bottled Cider is a delightful beverage, and differs as much from the trash sold as such, as pure wine differs from the English *manufactured port*. The casks should be kept in a cool place, and, after being racked four times, should be bottled before the apple blossoms appear in May. Some idea of the Newark Cider business at the present time may be gained from the statements of half a dozen mill owners that they will each manufacture fifty thousand gallons before the season is over."

10. Cider, to Keep, or Benjamin Beecher's Champagne.—Let the Cider be made as late in the season as practical, using a reasonable proportion of sweet apples if you can, and positively avoiding all rotten apples, and *not* using a drop of water in making it. Put it into casks, or barrels and let it ferment and settle; then draw it off from the sediment, or pomace, and put into clean casks again. Now, for every 110 gals. of Cider, dissolve, in some of the Cider, not in water, fish, isinglass, $\frac{1}{2}$ lb., and stir it well into the cask and let it settle, then draw off again, into clean casks; after which, bottle and cork, wiring down and tin-foiling the nose of the bottle, like Champagne, if it is desired to sell it. But let this be remembered, if any of the casks from which you are drawing off your Cider, are to be used again, which of course they will be, pour out all the sediment and strain it for vinegar, being careful not to draw down so close to the sediment, or pomace, as to get any of that stirred up with the Champagne Cider, and rinse out the cask with the pure Cider, then use the rinsing Cider also, for vinegar—using no water that shall in any way come in contact with the Champagne.

This instruction is from a Mr. S. Tomlinson, of this city, formerly of St. Louis, Mo., who received it from Mr. Benjamin Beecher, of New Haven, Conn., several years ago. Mr. Tomlinson had been in the habit of spending a month, or so, every year, for several years, at West New Haven, and some other boarders had brought over several baskets of Mr. Beecher's Champagne, and through them, an introduction was gained, and the instructions obtained by the man living in the "Far West," as St. Louis was then admitted to be, as it would not interfere with his enterprise at home—so these things go around about way to reach home again. The plan is good; for the pomace must be got rid of, and no water used, if you wish to keep Cider within a reasonable degree of acidity—in other words, no very good thing may be had without labor, and more, or less expense.

I have this day, October 28th, 1872, tasted of Cider, or Champagne, whichever you please to call it, prepared a year ago by Mr. Tomlinson, according to the above directions, which is very nice indeed, proving to my entire satisfaction, the correctness of the plan.

11. In the Scientific American, of September 25, 1869, I find the following, which will not only explain itself, but will give a sound and practical advice and experience on Cider, and Cider Manufacture, and I will add, its uses also. It was as follows:

"The season for the Manufacture of Cider is at hand. As it is an important product, and many a good crop of apples is wasted in mak-

ing an inferior quality, simply from the want of a little practical knowledge, the following hints from the *Working Farmer*" (a New England publication) "will be found reasonable and sound:"

"In general, we may say that the same principles that govern the Manufacture of wine hold good in making Cider; for Cider is wine made from apples instead of grapes, and deserves the name of wine certainly as much as the fermented juice of currants, raspberries, and other fruits that we dignify with this name. To be more particular, no good Cider can be made from unripe fruit. We should laugh at the man who should undertake to make wine out of green grapes. It is just as foolish to make Cider out of green apples. Sugar is essential in all fermentation. As fruit matures the starch which they contain" (in a green state) "is converted into sugar; and only when mature is the fruit fit for eating and conversion into wine. Providence has made all unripe fruit unpalatable, so that neither man nor beast should be tempted to eat it in its green state." (Our editor here very wisely left *children* out of this category—very many of them suffer from eating unripe fruit). "In unpropitious seasons the wine grower adds sugar to the expressed juice of his grapes, in order to supply the deficiency of saccharine matter and perfect the fermentation; and few, if any, of the grapes of New England contain enough sugar to make a good wine without its addition. Cane sugar, however, never gives a flavor equal to that naturally produced in the fruit. The nearest to perfect ripeness, therefore, we can bring our apples, the better will be our Cider. We have tried adding sugar to the juice of apples, and find that it improves the quality of the Cider as much as it does wine. If sugar is added to the juice of any fruit, it should be of the purest kind. It is a common mistake to suppose that the flavor of Muscovado" (unrefined, or raw) "sugar will work off during the vinous fermentation; it is continued even into the acetous fermentation, and deteriorates the quality of the vinegar.

"As a second rule, no rotten apples, nor bitter leaves, nor stems, nor filth of any kind, should be ground for Cider. The wine-maker who seeks a reputation for a superior article looks well to the condition of his grapes before he allows the juice to be expressed. We do not like to eat rotten apples; and they are no better for *drink* than for *food*. No wonder that a prejudice should exist against Cider in the minds of those who have seen the careless way in which it is sometimes made. We have heard it called, and not inaptly, the expressed juice of *worms* and *rotten* apples. Perhaps if we could see the process of manufacturing cheap wines, our prejudices against them would be equally strong. There is no economy in such carelessness. If Cider is worth making, it is worth making well; and then, with a good *conscience*, we can ask a good *price*, and be *sure* of getting it too; for a good article is *always* in better demand than a *poor* one.

"Much Cider is injured by being pressed with musty straw. In this respect, the little hand-mills have the advantage, for they require no straw; and there is little straw so bright and clean as to be totally free from dust and an unpleasant odor. We very much question whether straw is of any advantage in the large power mills. It doubtless aids in conducting the juice, but it also absorbs not a little; and the danger of a bad flavor from it is so great that we should discard it altogether. The press can be made small, and of brick, or some other hard timber, that will not contaminate the Cider. Two

presses are really necessary for each mill, so that the pomace can be exposed to the air in one, while it is being pressed in the other, and thus acquire a deeper color.

"Perhaps the most essential requisite for good Cider is the casks in which it is to be preserved. Few old Cider barrels are fit to put Cider into again. We have seen them soaked in running water for days, and still retain the seeds of putrefaction.

"Fresh slacked lime we have found one of the best disinfectants; but we prefer a new oak barrel, or one in which whisky has been kept. We have heard that linseed-oil barrels were recommended, as the oil would rise to the surface, and prevent rapid fermentation. They are good for those who like them. We prefer to shut off the air at the right time with a good tight bung.

"Cider, like every other blessing, must be used with moderation. As the sweetest things can become the sourest, so our greatest blessings can be perverted into great curses. We feel bound to speak well of a bridge over which we have crossed safely; and Cider has bridged us over a *severe attack of jaundice*, and we find it an *excellent aid to digestion*. If the experience of others differs from ours, we will not quarrel with them, but *agree to differ*."

12. The *American Agriculturist* says that "if Cider is not made until just before Winter, and is afterwards kept near the freezing point, it will remain sweet and excellent; but to make a good fermented Cider that will keep a year, or more, without becoming too sour is not a difficult matter. The first thing is to exclude all *decayed* fruit, but it should be quite ripe. Not a drop of water should be used in the process of manufacture. The sweeter the juice, the stronger the Cider, and the better it will keep. Put the barrel immediately in a cool cellar—the cooler the better. The fermentation may go on slowly, or rapidly, practice differing in this respect. In the former case the liquid is treated in all respects like wine. The cask has a bung in which is fixed, air-tight, a tin tube bent at right angles, or a piece of India-rubber tube. The free end of the tube, in either case, dips into a dish of water. This arrangement allows the gasses liberated in fermentation to pass out, and the end of the tube being covered with water, air can not pass in. The bubbling of the gas through the water shows how the fermentation is progressing. When this has nearly ceased, the Cider is racked off into clean, sulphured casks, which are to be full and bunged tightly."

13. The *Wine Maker's Manual* recommends that if the Cider is not very sweet that 20 lbs. of sugar be added to a barrel; and if quite sweet, according to the goodness of the apples used, 10 lbs. of sugar to each barrel, gives alcoholic strength and aids in its preservation.

14. Solon Robinson, who has figured largely for years past, in the "Farmer's Club," of New York, in answer to a correspondent or that club, "said that the way to keep Cider good, is to get it clean by repeated racking and fining with isinglass, and then putting it up in new, clean, and tight barrels. He had drank Cider put up in this way which was 17 years old, and it was equal to wine, it was the finest Cider he ever saw."

15. Notwithstanding the length that this subject has reached, I feel constrained to add another item from the *Scientific American*, as to making:

Pure Wine of Apples.—"Being aware" (says the editor) "that

much wine sold for genuine champagne was manufactured from Cider, we informed a correspondent, a short time since, of this fact in answer to his enquiry. The following letter was elicited by the reading of the letter referred to:—

“MESSRS. EDITORS:—I am well aware that imitation wines are now extensively made, in the State of New Jersey, from the juice of the apple, and more from the Harrison apple than from any other variety, and the most of it is made at Newark. Those *knowing* ones are correct with regard to its being a mixture of *poisonous* drugs, not fit for the human stomach.

“Having been in the horticultural business for *over* 40 years, I have had an eye single to those spurious wines from the juice of the apple.

“It is gratifying to me to think that when you come to *taste* and *test* my wine—which I send you accompanying this letter—you will find a wine, a *pure* article, free from all drugs, and *not* an imitation. The sample I send you is 18 months old, and made after the following process:

“Take pure Cider made from *sound, ripe* apples, as it runs from the press. Put 60 lbs. of common brown sugar into 15 gals. of the Cider and dissolve it, then put the mixture into a clean barrel and fill the barrel up to within 2 gals. of being full, with the Cider; put the cask in a cool place, having the bung out for 48 hours; then put in the bung with a *small* vent, until fermentation wholly ceases, and then bung up *tight*; and in 1 year the wine will be fit for use. This wine requires *no* racking; and the longer it stands on the lees, the better.”

STERNE BRONSON.

Elkhart, Ind.

The editor of the *Scientific American* adds the following comment:

“It will be observed that our correspondent has, for the benefit of all concerned, described the method of making *pure Cider Wine*; and it is for us to say something regarding the sample he sent us. It is a *good Cider Wine*,—the best we ever tasted. If it had any fault, it consisted in being a very little too sweet. This can be remedied by using less sugar than the above named amount. A barrel of Cider contains 31 gals. *Wine from currants can be made in the same manner exactly.*”

Thus I think I have given such an explanation of the correct principles upon which Cider must be made and managed, if it is expected to keep well, that the *people* may charge the failure to themselves, *if they do fail to have good Cider, and that which will keep for years and still improve, as a beverage.*

16. But I should not have taken so much pains to enable the people to make good Cider, if there was no higher aim for it than as a beverage; but Cider is a *valuable medicine*; and under certain conditions of the system, is highly recommended as such. It has been known and recommended, by many physicians, for many years past, as particularly valuable in *dyspepsia* and in *inaction of the liver*; and under these heads will be found my own experience in its use; and that I may not appear to stand alone in recommending it, where I believe it to be good, I will quote the opinion of John King, M. D., Professor of Obstetrics and Diseases of Women and Children, in the Eclectic Medical Institute, of Cincinnati, Ohio, as given by him in his *American Dispensatory*, eighth edition, page 690. He says:

"Cider forms not only a refreshing and agreeable drink for patients with fever, but actually exerts a salutary medicinal influence, especially when the tongue is coated *brown*, or *black*. I have used Cider, in which horse-radish has been steeped, as an efficacious remedy in *dropsy*, for more than *twenty-three years*; and it is now used in the preparation of a valuable agent for this disease, the COMPOUND INFUSION OF PARSLEY. Cooked apples form an excellent local application in ophthalmic" (eye) "inflammation, erysipelations, inflammations, sore and swelled throat in scarlatina, ulcers, etc." (See Drorsy, for the Compound Infusion of Parsley.)

It may not be amiss to state here, that at this writing, I have been using Cider, a common table-tumblerful with each meal only, for about 3 months, with very decided advantage for dyspepsia and inaction of the liver, giving me a better state of general health than I have enjoyed within the last 3 years.

17. I find also that Alexander Frear, in the New York *Independent*, takes a decided stand in favor of Cider in *dyspepsia* and *bilious* complaints, the same things have been known and acted upon by others also, for many years. He says:

"For many bilious complaints, sour Cider is a *specific*" (positive cure), "and in such cases is one of the good things to be received with thanksgiving. Cider guzzlers are an abomination, but, if *dyspeptics* will take a little with their *dinner*, they will find digestion greatly aided. We go in for the manufacture of a good, pure article, and, in the use of it, to let our moderation be known to all men."

18. Cider in Rheumatism.—The *Medical Reformer* speaks of Cider in Rheumatism as follows:

"I have been using Cider in acute rheumatism with much satisfaction. I think more of it than of lemon-juice. Either new or old Cider answers equally well. It sometimes purges. I sometimes combine a little laudanum with it.

"As a beverage, it is the most healthy known. To the stomach, it is—in moderate quantities—the most genial of all drinks. It should be more generally used. As rheumatism probably depends upon a faulty retrogression" (going backwards) "of the products from the muscular tissue, Cider may hasten this, and thereby remove it." To which the editor of the *Scientific American* adds:

"As a beverage for a dyspeptical person its recuperative" (health restoring) "qualities can be endorsed without mental reservation. Foreign wines and Scheidam Schnapps are vile stuffs in comparison with genuine American Cider."

In closing the subject of Cider, Cider Wine, etc., I have this only to add in regard to its Manufacture and Keeping, and that is this: I believe the chief difficulties in Keeping Cider are, that nearly all manufacturers use water in laying up and pressing, the "cheese," as it is called, and that many of them also add water to it after it is made, or else use a larger amount in pressing; and that many, if I may not say, *most* of the barrels, into which it is put, are musty and unfit for use.

Notwithstanding all that has been said in favor of the use of Cider as a *beverage*, and for *medicinal* use, yet, there is a word of caution to be given in connection with it: Those who have ever been in the habit of using intoxicating liquors to excess, must not allow themselves to even *touch* Cider, or the Champagne made from it, for there

is no spirit that will so quickly excite the appetite for them again, as that of Cider; then let such beware of it as well as of every other kind of liquors, for no resolution to the contrary can stand against actual participation—then, again, I say let such “touch not, taste not, handle not.”

19. Older Barrels—To Clean from Mold and Mustiness.—Make sufficient lime water, say a bucketful of water, and lime the size of a man's fist, dissolved and settled; taking the clear liquid, and put into the musty, or moldy barrel, and also put in a common trace-chain, or two, and shake and rinse well, so that the chain, as well as the water shall reach every part, to chafe off the mold, then pour off the water for another Barrel, or two, according to the foulness; then put in pure water and rinse well; then rinse with whisky—1 gal. will do for 4 Barrels, leaving 1 qt. in each, shaking about occasionally, until the Cider is put in. Much Cider that is put into old Barrels would be far better if proper care was taken to clean them, in this manner, before using.

1. CHICKEN HEAD-CHEESE.—Take 2, or 3, or more nice tender Chickens, joint them, split open the back, and keel, as the breast-bone is sometimes called, then boil them very tender, and remove all the meat from the bones, and chop finely, when cold, place the chopped meat, highly seasoned, with salt, pepper, and a little butter, as you would common Head-Cheese, then pour in enough of the liquor they were boiled in, to make it moist, put it into a flat dish, or pan, putting another dish upon it, bottom downward, then weight it as usual. When cold, it makes a very nice relish, at tea, and to put into lightly buttered biscuit for sandwiches for picnics, etc.

2. Chickens and other Fowls—To Prepare their Flesh for the Dinner, or Tea-Table.—The *Hearth and Home* gives us a genteel way of preparing the Flesh of Fowls, so that ladies, or gentlemen, in the presence of ladies, will have no delicacy in being “helped to Chicken,” or Turkey. It says:

“Cut the carcase in pieces by removing wings, legs, and neck. Separate the light-colored meat attached to the ‘wish-bone’ from the ‘keel-bone,’ split the back, put all the pieces into a pot, and boil them until the flesh will easily cleave from the bones. Then pick the flesh into small pieces, cut the skin into narrow strips, putting the flesh, as it is separated from the bones, into a cake-tin. A tin about five inches square by ten long will hold the flesh of a Turkey, or Goose. A one quart tin basin will be sufficiently large for the flesh of a Chicken, or two. Let the dark meat and skin be evenly mingled with the light-colored flesh. Season to suit the taste, as the fragments are put into the tin receptacle. Now procure a piece of clean, flat stone, of any sort, or a hard brick, of suitable size to press the meat down into the tin, after which lay a square piece of tin on the meat, press it down firmly with the flat stone, place the tin with its contents in the oven, and apply the same heat as for roasting the carcase of a fowl. After it is cooked through, turn the contents of the tin on a meat-plate, and, with a sharp carving-knife, slice it, as cake is cut, in pieces. Dressing may be prepared in another dish.

“By this mode of cooking, the entire dish is cooked uniformly through. As the light meat is mingled with the dark, and is free from bones, every person at the table will experience a wonderful relief at the recoiling thought that he, or she, may be helped to a piece that does

not really coincide with their choice and taste. A lively cook will be able to pick the bones of a fowl neatly in fifteen minutes. The foregoing mode of cooking poultry is a complete remedy for any embarrassment one may dread in consequence of picking a Chicken-bone while at the table spread for genteel and cultivated people. If preferable, the flesh may be stewed, or fried, instead of being roasted."

1. CISTERNS AND FILTERS—Directions for Making.—The *American Farmer* gave the following communication, from John Wilkinson, landscape gardener and rural architect, upon this important subject, which will especially be of value to farmers; as most city people now make a regular brick wall to their Cisterns, and arch them over, it may not be so important to them. He says:

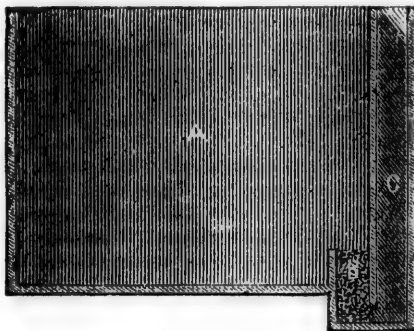
"A Cistern of the dimensions that I shall describe will hold 1,000 gals.; and will cost but \$8, and its capacity may be doubled for less than 50 per cent additional cost. One of this size will be found sufficient for famers' families generally, and will insure soft water, which is rare in wells.

"The following are the directions for excavating the Cistern: Stake, and line out a plat near the house 8 by 18 feet; excavate this 1 foot deep; then set the lines in $1\frac{1}{2}$ feet on all sides" (this leaves a foundation for covering); "then excavate all within the lines, or 5 by 15 feet to the depth of 14 feet in the middle, making the middle level some 9 inches in width, sloping the banks on all sides and ends to the lines last placed, which will make a section of pit, either way, V shaped, except that the 9 inches of the bottom will be level. In digging the banks use care not to disturb the dirt not thrown out. When the digging is completed, plaster the bottom, the level part, with a good coat of *Portland Cement* mortar, and place a board on it to stand on to do the balance of the work, cutting the board in *two equal* parts, before laying it on the cement. This done, plaster, with the cement mortar, the entire surface on the ground to the lines last named, then remove half of the board, and stand on the balance, and build a 4 inch wall across the pit, about in the middle, laying the brick, which should be *soft*, common salmon brick, in the cement, but *not* plastering either side. Lay the wall to the line, then remove the balance of the board and plaster where it lay. The Cistern is now complete, save the covering; this may be done by laying plank over the whole excavation, first plastering the top recess to keep out worms; or split-logs, from the woods, will do in place of the plank, laying them flat side down, and closing their joints with mortar to keep out worms also. The pump-pipe, however, should first be laid into *one* end; and the water from the house led in at the *other* end, before it is covered, or in the covering. This done, return earth enough to cover the surface, at least, 1 foot higher, in the middle, than the surrounding ground; level it off neatly and sward it, and you have a complete Filtering Cistern for 8 to 12 years."

2. This plan of building a brick wall across a Cistern has now been followed for some time, and has given very good satisfaction, and a wall may be built just as satisfactorily across a Cistern that has been walled up with brick. The cement with which the cross-wall is laid up will sufficiently attach, or fasten, it to the side walls so that it will stand permanently. The water coming in on one side, and the

pump being upon the othe., the water must go through the soft, or pale colored brick, before it reaches the pump, and consequently must be pure; but, a very ingenious neighbor of mine, a Mr. Lawson, who is also the inventor of the HERNIAL TRUSS, which is also *illustrated* in this Work, has adopted the following plan which he has used now over a year with entire satisfaction:

FIG. 21.



FILTERING CISTERN.

A, the Cistern; C, the Pump Chimney; B, the Filtering material.

not represented; and the 3 feet way of the hole is toward the center of the Cistern, and is all walled up with brick and plastered with cement, like the balance of the Cistern. The chimney is built up only 1 foot from the Cistern wall, and plastered as it is built, with cement, so that all the water must enter through the Filter, sponge, etc., before it reaches the pump. If the Cistern is already built, into which this arrangement is to be placed, and a wood pump is to be used, the chimney must go up plumb; but if a lead, or block-tin pipe is to be used, it matters not about that, it may keep the same distance only from the wall. When the chimney, or pump-partition is done, and the Cistern ready for the water, put in the sponge, then a few inches of nice pebbles, then a foot or so of properly pulverized charcoal, then a layer of gravel to fill up to the top of the well-wall, which it will be seen comes a foot, or more above the bottom of the Cistern, so that the sediment may not be as likely to trouble the Filter."

Those who do not use Cistern water for drinking purposes may, perhaps, like the soft-burned, unplastered partition of brick best, but certainly for drinking, the *illustrated* plan of Mr. Lawson, is decidedly preferable.

3. A Mr. F. W. Coe, of Vergennes, Vt., in writing to the Agricultural Club, of New York, the proceedings of which are published in the *American Agriculturist*, says that he had used Filtered Cistern water over 20 years, both for drinking and cooking purposes, first using a box with charcoal, pebbles, and gravel, to Filter the water through before it entered the Cistern; but that did not give him entire satisfaction, the water smelling sometimes, in very hot weather; but, he continues:

"About six years ago I sold my home and built anew. In one

"The plan it will be seen by the illustration, Fig. 21, is to dig a hole near one side of the Cistern, about 2x3 feet square below the bottom of the Cistern, and to the depth of about 2 ft., then in this box-like place he builds up a pump chimney, or partition, three-sided, the Cistern wall making the fourth, or completing the chimney, leaving a little hole in the center of this chimney-wall next to the filtering material B, into which a large sponge is to be placed, from the Cistern side, before the gravel, charcoal, etc., are put in. The sponge must be so large that it will not go through. The end walls of the chimney are

corner of my cellar I built a large square stone Cistern. Across one corner of this Cistern I laid a four-inch brick partition in cement, one brick laid upon another with cement between, but none on sides. The brick are what the masons call salmon brick, not the hardest, or softest kind. The water is conducted direct from a slate roof into the main Cistern, and passes through the pores of the brick partition, in the corner, rising to a level with the water in the Cistern within a few hours after a heavy rain, and as it comes from the conductor with considerable fall and force, it agitates the whole body of water, helping to keep it pure and sweet. In this corner apartment is a block-tin inch pipe, leading to the pump. If a quart of water is pumped from this corner, another quart finds its way through the pores of the brick to supply its place; and thus through the day, as water is hourly being used, or taken from this corner apartment, there is a constant circulation, or movement of the water passing through the brick to supply the consumption, thereby tending to free it from all impurities. I have used this brick partition for a Filter over five years, and give it a decided preference. The water has always been clear, and apparently pure, being made so in part by its almost constant motion in connection with the Filtering. The brick appear to be as sound to-day as when first laid."

I have heard these cellar Cisterns objected to as not being sufficiently substantial, but *five* years, in this case, did not discover anything out of the way in the Cistern, or the plan of Filtering. Out of the variety of plans here given, every man must adopt the one that he thinks the best adapted to the circumstances under which he is placed, or conveniences at hand.

Many persons will prefer to use the Kedzie, or some other house Filter instead of one in connection with the Cistern; but, notwithstanding a Filter may be used in the house for drinking water, it will be found very convenient for cooking purposes, even to have one in the Cistern, especially so when it can be done for such a trifling expense.

1. CLAY, OR EARTH POULTICES—Valuable in Small-Pox, Stings, Insect Bites, Rattlesnake Bites, etc.—The *Scientific American*, of July 6, 1872, published the following remarks upon the subject of Clay, or Earth Poultices in Small-Pox, or rather the dusting of finely pulverized pipe Clay over the faces of patients, suffering severely from this disease. It says:

"The value of Earth as a disinfectant and deodorizer is well known; and the treatment of ulcerated sores and gangrenous wounds with it is becoming very general. A new application has lately been described by Dr. E. S. Bunker, who states that he has recently used Clay as a dressing for the face in two cases of *confluent** Small-Pox, dusting it, in fine powder, over the faces of the patients as soon as the pustules become fairly developed. This formed a clean, dry, wholesome scab, absorbing the infectious material, and scaled off during convalescence, leaving the underlying skin in its natural and normal state. The painful itching, which is one of the worst characteristics of the

*The literal meaning of *confluent*, is to run, or flow together, as the coming together of two streams, forming one; in medicine it has reference to the extending of blotches, pimples, or pustules, as in Small-Pox, until they come together, forming a general sore over the whole surface, so far as outward appearance is concerned, the swelling and the scabs being general, although the centers of the original sores, or pustules, may show a deeper pit after healing.

disease, was entirely abated. The Earth used was fine pipe Clay."

If this simple remedy will allay the terrible itching of this terrible disease, which causes patients to tear their faces, even in their sleep, giving some, such unsightly appearances, and of the fact there is no reasonable doubt, it is certainly a valuable discovery.

2. Further confidence may be derived from the next number of the same journal, as the previous article brought out the following statement from Mr. Gallup, of Ohio, upon the other points of the subject as given in our heading. It says:

"In further illustration of the value of Earth for external application, mentioned on page 9 of our last number, a correspondent, Mr. H. Gallup, of Norwalk, Ohio, sends us the following:"

"As the season of Bites of reptiles is near, I send you a simple and easily obtained remedy for Stings, or Bites. It is a plaster of Clay, or instead of Clay, common swamp, or gutter mud, applied as soon as possible to the wound. I have tried it on myself. In one case I was Stung, by a numerous swarm of the yellow hornets, in many places in my neck and arms. I went to a swamp, near, the poison being so severe that my sight was much effected. I immediately applied the mud, and in half an hour, I went to mowing again, with only a small sore lump round each Sting. I knew a neighbor who was Bitten by a Rattlesnake some miles from home; his companion left him and went for help as soon as possible, it being just night. He was not able to return until morning. When going, he met the man returning, with the poison conquered. He had got to a swamp, dug a hole with his tomahawk, inserted and buried the Bitten place in the mud. That was all."

The foregoing plans of using Clay, or Earth Poultices would seem to indicate them to be of recent origin; but, if I mistake not, the plan is, at least 1872 years old; for in John IX, 6, 7 verses, I see that Jesus—the Great Physician—"spat upon the ground, and made Clay of the spittle" (more probable now, it would be translated, *with the spittle*) "and He annointed the eyes of the blind with the Clay;

"And said unto him, Go, wash in the pool of Siloam, which is by interpretation, Sent. He went his way, therefore, and came seeing."

"So it would appear also to have been as successful in those days as now. That He—Christ—was just as able to cure the blind man without the Clay as with, I have not a doubt, but possibly it was His purpose to call our attention to the value of the prescription. And no doubt, He could have cured the man just as well without having said, "Go, wash" etc., but it was his purpose also to show us that He—God—works by the *use of means*, temporarily, as well as spiritually—let us all, therefore, *work*, "while the day"—life—"lasts" whether it be in making Clay Poultices to save the bodies of our fellow beings from suffering, or whether it be to teach, or set Christain doctrines and example before our fellows to save them Spiritually; for the most humble can do something for the good of others.

CLEANSING WOOL—New and Valuable Method.—The *Journal of the Society of Arts*, publishes a valuable Receipt for Cleansing Wool, invented and introduced by MM. Baerle & Co., of Worms, in Germany. The Method consists in the use of soluble glass, which should be obtained of the druggists, with water, in place of soap, or old urine, as heretofore practiced. It is claimed to be simple and

economical, and only requires to be once experimented upon to establish its superiority. The plan is as follows:

"Take 40 parts of water at the temperature of 50° to 57° Centigrade;* and 1 part of soluble glass.

"Plunge the Wool into the mixture, stirring it about for a few minutes by hand, then rinse it in cold, or tepid water, and it will be found completely white and void of smell. The Wool, after this operation, remains perfectly soft, and loses none of its qualities, even when left for several days in the solution of the silicate, and being washed in hot water. Sheep may also be washed with the same preparation, care being taken to cover the eyes of the animals with a bandage, to perform the washing with the solution instantaneously, and to remove the surplus with tepid water. In the case of Combed Wool, the Wool should first be steeped in the solution above given, and afterwards in another bath, composed of 80 parts of water, at 37° Centigrade, and 1 part of soluble glass".

CLOCK-OIL.—I see it going the rounds of the newspapers that "A very nice Oil for Clocks, is the refined, or pure glycerine, as it does not stiffen by cold," but it is a mistake, glycerine will not only stiffen by considerable cold, but it dries to a greater, or less degree, which makes it gummy; hence, not suitable for Clockwork, nor watches even nut-oil is preferable to glycerine. Jewelers use the purified porpoise-oil, which is very fluid, does not gum, nor stiffen by any ordinary temperature. Five cents worth of it will last a family as many years. Jewelers, only, keep it.

1. COCKROACHES—"Dead Shot."—Alexander Sheldon, a chemist of Buffalo, informs the *Scientific American*, that although these pests "laugh at pyrotheum" (a patent article for their destruction) "and other poisons, yet," he says, "allow me to state in your paper this fact, which is but little known, viz.: powdered borax sprinkled liberally, wherever they most do inhabit, is a *dead shot* on them. I account for it in this wise, that the borate of soda" (borax) "being a *sweet alkali*, is, like St. John's little book, 'sweet to the mouth, and bitter to the belly.'"

There is but little doubt of the efficiency of borax where it can be placed in their haunts, but some may not choose to use it, and in some places it might not be obtained, or could not well be used, I therefore, give a few other effectual remedies; for a Cockroach is quite like Paddy's flea, "when you put your finger on him, he isn't there."

2. Cockroaches are very much inclined to devour a flour paste. Then, to meet this appetite of theirs, with something that will destroy them, take a pint cup, say, $\frac{1}{2}$, or $\frac{3}{4}$ full of water, and dissolve a teaspoonful, or two of sugar in it, and also 10 cts. worth of phosphorus, dissolving the phosphorus by heat; then mix in sufficient flour to make

*But few persons in this country use the Centigrade thermometer; hence, the propriety of an explanation of the difference between that and Fahrenheit, usually written Fah. The word Centigrade comes from *centum*, 100, and *gradus*, a degree, and, therefore, starting its Zero, or 0, as it does, at the freezing point, it divides the degrees between that and boiling into 100°, while Fahrenheit, the inventor of the thermometer, generally used in this country, and also in England, starts his Zero, or 0 at 32° below freezing, and divides from freezing to boiling into 180°; then, 1° Centigrade, is $\frac{9}{5}$ and 32° Fahrenheit—50° to 57° Centigrade, therefore, equals 122° to 134° Fahrenheit, for the 32° below freezing in Fahrenheit, are to be added to the count. 37° Centigrade, equals 98° Fahrenheit.

a paste of buttery consistence, after which, add lard $\frac{1}{2}$ as much bulk as there is of the paste; the lard prevents it from drying up.

Now, from time to time, spread of this paste, observing that all the ingredients are kept thoroughly incorporated, upon pieces of shingles, or bits of board, or on broken glass, and lay them, nights where these animals can get at them, and but little further trouble will be experienced from them. Keep the cats and dogs out of the room, after this is laid about for the night, as they may be injured by licking it up, as it is not unpalatable for them.

3, **Roaches** are also very fond of sweetened water. Then set a basin, or two, half filled with it, at night, with a bit, or two of shingles or thin board leading up from the floor onto the basins, or pans so they can get into the dishes and they "go for the sweet," to their death,, by drowning—hundreds in a single dish have thus "found a watery grave" in one night.

4, **Another** plan is to spread thin bits of bread with butter; then dust Paris green upon the butter, only a little, over the whole surface, and they will give up to this poison, even quicker than our out-of-door enemy—potato bugs.

5. **Another Certain Remedy.**—Another man gives his "Certain Remedy," in the following words:

"Take red lead and Indian meal, equal parts of each, and make into a thick paste with molasses. Set it where they 'do most frequent,' and they will not 'most frequent' very long."

COLDS—Ancient Method of Cure.—The *Evening Post* says the following plan for the cure of Colds has been in use since 1340:

Putte your feet in hot water,
As high as your thighs;
Wraspe your head up in flannelle,
As low as your eyes;
Take a quarte of rum'd gruelle,
When in bedde, as a dose;
With a number four dippe,
Well tallow your nose.

This will be found as valuable and practical, at the present time, except perhaps, as to the depth of the foot-bath, and the amount of "rum'd gruelle," perhaps a pint of that would be sufficient now-a-days, if made tolerably strong, repeating the treatment one, or two nights, until the cold is broken, *i. e.*, loosened.

COLD-CHISEL—To Make at Home.—Farmers and gardeners frequently need a good Cold-chisel for light work, such as cutting off rivets, nails, or pieces of hoop-iron. A piece of bar-steel, and the forging it into proper shape, will cost from fifty cents to one dollar. Those persons who want the use of a Cold-chisel only once a week, or so, do not always have the money to spare for a tool that they have but little use for. Therefore, to get a *cheap* Chisel, that will subserve all the purposes required, make use of a large, flat file that has been worn out. Break off one end, so that a piece will be left about eight inches long; heat it in a charcoal-fire to near redness, and let it cool gradually. Then the steel will be soft. Now grind one end square and true for the head-end, and form the cutting edge by grinding at the other end. Thrust the cutting end in a charcoal-fire, in the cook-stove, until one-inch in length is red-hot. Now cool half an inch of the edge in cold water, which will render the edge quite too hard. Watch the color of the steel as the different shades appear near and

at the cutting edge, and as soon as you see a light straw-color on the surface, approaches the cutting edge, plunge the Chisel into cold water. By this means, you will get a Cold-chisel sufficiently hard on the edge to cut iron, and so soft and tough in the part *above* the edge that it will bend rather than break.

1. COLD CREAMS—For Irritation of the Skin, Chaps, Cracks, etc.—Neat's foot-oil, or almond-oil, $\frac{1}{2}$ lb.; spermaceti, 3 ozs.; white wax, $\frac{1}{2}$ oz.; rose, or orange-flower water, $\frac{1}{2}$ pt.; ess. of bergamot, $\frac{1}{2}$ oz.

Put the oil, spermaceti, and wax into a tin basin to melt, that will set in one of larger dimensions containing water, like a glue kettle, or otherwise place the basin on a stove drum, or in a stove oven, having only sufficient heat to melt the ingredients without burning them. When melted, beat the mass with a clean, flat wooden spatula until of a uniform appearance; then add the perfumes, and beat again, to a uniform mass. Sweet-oil, or nice white lard, from a young hog, might be substituted for the neat's foot-oil, or almond-oil, with very good satisfaction.

2. Another.—Almond-oil, $\frac{1}{2}$ oz.; glycerine, $\frac{1}{2}$ oz.; spermaceti and powdered camphor, of each, 1 dr.; oil of rose, 3, or 4 drops.

Melt the spermaceti in the oil, and add the camphor and glycerine. Put into a wide-mouthed bottle, that will admit the finger, in which you have dropped the oil of rose. Keep corked, for use, as No. 1. Glycerine has proved a very valuable addition to preparations for the skin, as it keeps the surface soft and pliable, as well as to promote a healthy action of the skin.

3. Chapped Hands, or Lips—Ointment for.—Sweet-oil, 3 ozs.; spermaceti, 4 ozs.; pulverized camphor, 1 oz.

Mix together in a clean earthen vessel, by gentle heat, and apply by warming a little, night and morning. Butter just churned and unsalted may be substituted for the sweet-oil—same quantity.

4. Deer's tallow, 4 ozs.; glycerine, 1 oz.; and pulverized camphor, $\frac{1}{2}$ oz.; honey $\frac{1}{2}$ oz.; carefully incorporated together by gentle heat, or by rubbing with a knife, or spatula on a plate, or in a Wedgewood mortar, makes a very healing ointment for chaps, sore lips, etc. See HERNIA, or CHAFING OF TRUSSES, also.

5. Butter freshly churned and unsalted, with $\frac{1}{2}$ its bulk of nice strained honey, mixed together, make a nice ointment for the same purpose.

COLD PINK, OR TURKEY HEAD-CHEESE.—After making the first meal off of a large turkey, cut all the meat that is left from the bones, and with the gizzard, liver, etc., chop it all as fine as possible. Having cooked a quart, or so, of ripe cranberries to be very soft, mash them up and squeeze out the juice, and mix it with the chopped turkey; then put into a bowl or pan, and put a dish upon it, the same as for hog's head-cheese, and press it. Serve cold by slicing in the usual way. Some would prefer the cranberry sauce sweetened as for sauce, but children are not as likely to relish sweets, with meat. See CHICKEN HEAD-CHEESE.

COLIC.—Very Successful Remedy.—Colic is generally an acute pain in the bowels, or colon, being situated, most often, in that part of the colon, or large intestine that crosses the abdomen in the region of the navel, or perhaps a little above the center of the abdomen; and most persons believe it to arise from some disarrangement,

or bad condition of the bile.* An especial friend of mine, living in Detroit, has suffered very much with Colic, but recently when suffering excruciatingly with this difficulty, he called a physician who gave him the following *prescription*,—of course it would not do to call it a Receipt—that would lower the Doctor's estimation of himself; but the pills gave the gentleman such immediate and perfect relief, that, when he knew I was preparing this Work, said, as I called upon him, he desired that it should be given to the public through it; and from my knowledge of him, after I was informed of its action, I was also anxious to obtain it. This explanation will enable my readers to understand the remarks of his letter which enclosed the "prescription," which is as follows:

"Take pulverized opium, and sulphate of morphia" (morphine), "of each, 2 grs.; pulverized camphor, and capsicum, of each, 5 grs. Make into 10 pills, with a thick solution of gum."

Dose.—One pill will generally give relief. If not materially benefited, give another, after 1 to 2 hours—of course, this is for an adult.

The following are the remarks referred to in the letter:

"Please find prescription, as desired by you, which I hope will alleviate the pains of some mortal as it has done for me. If so, I shall be well paid for the labor I have taken to get it for your forthcoming Book. Hoping it may prove profitable to you, and a blessing to mankind,
I remain, yours etc.,

Not having asked the privilege of giving the name, I have not felt at liberty to do it, and it would also be considered a breach of etiquette to give the name of the prescriber; but I will vouch for the standing of both, and further, I can, from my knowledge of the nature of the prescription, most cheerfully recommend it, in Colic, cholera-morbus, cholera, painful diarrhoea, etc. I have not lately, if ever seen a better combination of medicine for the relief of these difficulties.

COLORED LIGHTS—Red, Green, and Blue Fire, for Rooms, Without Sulphurous Odor.—In public exhibitions where it has been necessary to use different Colored Lights, the use of Sulphur in their make has caused a very disagreeable Odor of the Sulphur. This has been overcome by a German chemist, J. R. Braunschweiger, in the following Receipts:

1. **Red Fire.**—Nitrate of strontia, 9 parts; chlorate of potash, 1½ parts; shellac, 3 parts.

2. **Green Fire.**—Nitrate of baryta, 9 parts; chlorate of potash, 1½ parts; shellac, 3 parts.

3. **Blue Fire.**—Ammonium sulphate of copper, 8 parts; chlorate of potash, 6 parts; shellac, 1 part.

The shellac must be coarsely pulverized and evenly mixed with the strontia, baryta, or the ammoniated sulphate of copper, before the chlorate of potash is mixed in; and it *must be remembered*, that the chlorate of potash *must not* be rubbed hard, in mixing; for the reason that it is explosive. When the first articles are well mixed the chlor-

*The Bile, in itself, is a bitter and nauseous tasting fluid, secreted by the liver, of a greenish yellow appearance, rather thick and sticky, or tenacious in its properties, even when in good condition; but, when in a bad condition these properties are all intensified, and consequently its effects are, if not corrosive, certainly very irritating. The French word *cholere*, the Latin *cholera*, and the Greek *Χόλος*, all signify the same thing; hence, we have the words *cholera*, *choleste*, *choleic*, *cholesterine*, etc., which signify some degree of anger, or passion; and as the *bile* was anciently considered as the seat of anger, or wrath, it has naturally led to the retention, and no doubt justly, of the idea, that Colic arises from a vicious, or unhealthy condition of the

ate, which will come in fine crystalline pieces, can be mixed by pouring it from one paper to another, or with a spatula, being careful not to grind the spatula down upon the mixture. Let the chlorate be kept in a bottle by itself, and mix it only as used. This caution is to avoid spontaneous explosion, or combustion.

In speaking of *parts*, as these Receipts are given, it matters not whether you take lbs., ozs., drs., or spoonfuls, as the measure, or weight—keep the proportions is all that is necessary, taking the weight, or measure that gives you all you wish to make. These Fireworks can be set off in any good sized room without suffocation from the Sulphurous acid which is set free by burning the ordinary Colored Lights, most, if not all of which have Sulphur, in their composition.

1. **COLOGNE, OR PERFUME—For the Hair.**—Oils of lemon, neroli, orange, and rose geranium, of each, 12 drops; tincture of cardamon-seeds, 1 oz.; cologne alcohol, 1 pt. Mix.

These, and all other preparations for the Hair should be bottled and kept corked.

2. **Another.**—Oil of bergamot, 40 drops; oil of neroli, 12; oil of orange, 22; oil of rosemary, 6; essence of lemon, 45 drops; alcohol, $\frac{1}{2}$ pt.

Any Cologne is nicer to use cologne, or deodorized alcohol, but in small towns where that is not generally kept by druggists, the common 76 per cent alcohol, will do very well.

3. **Mrs. Gen. —'s, Cologne.**—Oils of bergamot, lemon, lavender, neroli, and rosemary, of each, $\frac{1}{2}$ oz.; magnesia, $\frac{1}{2}$ oz.; musk, 10 grs.; alcohol, 2 qts. Mix, shake well and filter, through filtering paper.

COLORING—Domestic and Manufacturing Processes.—

When I concluded to write a *new Book*, I, at the same time, resolved that it should embrace such a variety of items as should make it generally useful, and that in all branches in which I had not *practical* knowledge and experience, myself, I would have written expressly for the Book, by those who had such experience; and this plan I have fully carried out. Then, having had about 17 years acquaintance with Mr. Hiram Storms, of this city, who is not only a Manufacturer of woolen goods, but who has worked with his own hands, in the Art of Coloring, for about *forty* years, I knew him to be the man for this part of the work, if I could get him to undertake it; this I have accomplished by paying him what many would consider a large sum, for it. Coloring being an Art, or mechanical branch of labor that but very few ever become truly *first-class* workmen in; as, perhaps, more depends upon the details, or attention to the *little* things connected with its management than most persons are willing to give to it, and hence they remain *poor* workmen all their lives; but when they see a man who always shows bright, clear Colors upon his cloths, they are willing to pay large prices for his Receipts. Mr. Storms has several times been paid, by Manufacturers, from \$30 to \$50 for only 4, or 5 Receipts now embodied in this Book. Knowing these things to be facts, I have paid his price, for the benefit of the purchasers of this Book; and knowing that *much* depends, as above stated, upon the attention to the *little* things in Coloring, I charge all who expect to have good, bright, clear Colors, that they, too, *must be careful to follow Mr. Storm's instruction in all particulars*. He has written so plainly, and particularly, however, that no one need have any fears to undertake their own

Coloring, but may reasonably expect to be well satisfied with their work, when it is done; for he has accomplished his undertaking to my entire satisfaction, embracing the most reliable Receipts, and the most recent improvements in Coloring, adapted, alike, to Manufacturers as well as to Domestic purposes; all that Manufacturers have to do, is to increase the proportion of dye-stuff to correspond with the amount of goods to be Colored. He says:

"N. B.—All goods for Coloring should be perfectly clear of dirt and grease-spots, otherwise the Colors will not be bright nor uniform, but will show spots of less depth of Color. After washing the goods, rinse well in warm water to remove all the alkali, otherwise your Colors will be dull and dirty in appearance.

"Be sure also, in Coloring *wool*, or *woolen* goods to give them plenty of time in the dyes, as the nature of wool is such that it has to be boiled for some considerable time to *open the fibers* to allow the dyes to penetrate their substance, otherwise the Color is merely on the outside, and will fade, or wash off, which gives it the appearance of fading and is the chief reason why Colors on wool are not more permanent. Silks, however, are of such a nature that they will Color in a very few minutes, 5 to 10, and with only from $\frac{1}{4}$ to $\frac{1}{2}$ as much dye-stuffs to the lb. of goods as wool requires; but wool must have the full time which I have set down to them. By paying attention to these instructions and always using sufficient soft water to cover the goods handsomely, you will have permanently bright and beautiful Colors.

1. "To Prepare Tin for Acids.—Melt the pure Tin in an iron ladle, then pour it into cold water while the Tin is very hot. Hold it as high as you can to pour it and pour in a small stream, which will leave the Tin like feathers, and it is called feathered, or grain Tin. The Acids will then take a quick hold of it, and it will be the quicker ready for use.

2. "Coloring Acid, or Muriate of Tin.—To Make for Scarlets.—Take sulphuric, and muriatic acid, of each, 3 ozs.; of the prepared Tin, No. 1, 1 oz.

"Put the Sulphuric Acid in a glass jar; then slowly add the Muriatic, after which, feed in the feathered Tin, a little at a time, until it is all dissolved. This is the Muriate of Tin, and it is better than that made where they use different proportions of the Acids, as most do in making it.

3. "Indigo Compound, or Chemic—for Blue and Green.—Sulphuric acid, 6 ozs. for each 1 oz. of indigo to be used. Use the best indigo, and pulverize, and put it into a glass jar; then pour on the Acid, and stir it for an hour. This never spoils by age.

(Remember in using any of the Acids to avoid getting it upon your clothing, and to not leave them where children can get at them for they will destroy children, as well as clothing.—AUTHOR).

4. "Colors on Wool—Scarlet.—Cochineal and muriate of tin, of each, 1 oz.; cream of tartar, $\frac{1}{2}$ oz.; goods, 1 lb. This may be Colored in a clean iron kettle, but not in a wash-boiler. The lead that is on the inside will spoil the Color. Put into your kettle, 1 pailful of soft water for each lb. of goods. When it is luke-warm, put in your cochineal, which should be well pulverized. When it is scalding hot, put in your tartar and acid, or muriate of tin, and stir well, then enter your goods which should be wet from the rinsing, and boil for 1 hour, stirring, or handling all the time to prevent spots. Rinse in clean water and dry.

5. "**Crimson.**—Alum and cream of tartar, of each, 1 oz.; cochineal, $\frac{1}{2}$ oz.; goods, 1 lb. Fill your kettle with soft water, add your pulverized cochineal, bring the water to a boil, enter the goods and boil $\frac{1}{2}$ an hour. Take out the goods and air them. Cool the dye and add the alum and cream of tartar, and enter the goods again and boil 1 hour. If not dark enough add a little saleratus, or soap. Wash clean, and dry.

"Let it be remembered that these Coloring Receipts are calculated to make permanent Colors, and the better the goods are washed, after Coloring, with good suds, and rinsed, the brighter will be the Colors, as the washing only fetches off the loose part of the dyes, which would crock, and make the Colors look dead, and dull, while the soap helps to set the Color; so do not be afraid of washing out the Colors that have taken hold of, or entered into the fibers of the goods—there is no danger of that.

6. "**Scarlet with Lac.***—For each lb. of goods, take lac, and muriate of tin, No. 2, of each, 2 ozs.; cream of tartar, 1 oz.; yellow oak $\dagger$ bark, $\frac{1}{2}$ oz. Put them all in a kettle and boil $\frac{1}{2}$ hour. Cool your dye a little and put in your goods and boil 1 hour, and rinse well.

7. "**Madder Red.**—For each lb. of goods, use alum, 4 ozs.; cream of tartar, 2 ozs.; Dutch madder, $\frac{1}{2}$ lb.; bran, $\frac{1}{2}$ bu. Put the bran into a clean barrel, and pour on hot water enough, as the bran will take up considerable, let stand until it sours—strain and press out, use the water for your dye. Boil your goods for 2 hours in the alum and tartar, with water sufficient to cover the goods well, then empty the kettle and rinse the goods. Fill the kettle now with the bran-water, and put in the Madder. As soon as it is luke-warm, put in your goods, stir, or handle them often for $\frac{1}{2}$ hour; then take them out and air them; then put them in again and gradually increase the heat so that in 1 hour it may just reach a boil; but the moment it begins to boil, take out the goods, and wash them thoroughly in strong suds, rinse well, and dry, and you will have a beautiful bright color.

8. "**Yellow with Fustic.**—To each lb. of goods, alum, 4 ozs.; cream of tartar, 1 oz.; fustic, 1 lb.

"Boil your goods 1 hour, with the alum and tartar, in sufficient water to cover the goods well. Then empty your kettle and fill with clean water, and put in your fustic, and bring your kettle to a boil, and put in your goods and boil 1 hour, and rinse.

9. "**Yellow with Oak Bark, Sumac, or Peach-Tree Leaves.**—Yellow may be made with any of the following ingredients, using the same amount of tartar and alum as in No. 8, and 1 paulful of yellow-oak bark, peach-tree leaves, or sumac bark, and boiling until the

*Stick-Lac is the production of an insect called the *coccus lacca*, found mostly upon the banyan tree. When this Lac is boiled in an alkali, we get the *seed-lac*, and *shell-lac*, used extensively in making alcohol varnishes, sealing-wax, and lacquers for tin and brass wares. It is the original, that is used in coloring.

$\dagger$ In any place where the yellow oak bark does not grow, or either of the other oak barks, the quercitron (*quercus tinctoria*) which is kept by all those who deal in dye-stuffs, will take its place, so it will do in the place of fustic. When a paulful of the oak barks are called for, meaning the green, inside bark, 1 lb. of the quercitron, or 1 lb. of the dry oak barks will be as strong as the paulful of green—quercitron comes from the Latin *quercus*, an oak. It is the black, or dyer's oak, growing over most part of the United States.

$\dagger$ Madder is cultivated both in France and Holland, but that raised in Holland, called Dutch Madder, is much the best. Mr. Storms uses the best only; if others want good and durable colors let them follow his instructions, and they will be satisfied.

strength is well extracted from whichever is used. See note after No. 6, for a substitute for oak barks.

10. "Orange.—For Orange, proceed as for yellow; then add to the yellow dye a little madder, at a time, until the shade you desire is obtained.

11. "Dark Green.—Color your goods a good yellow with No. 8, or 9, as your choose; then add to the dye, the following, *chemic*, or *indigo compound*, No. 3, until the shade required is obtained, of course, always taking out the goods when any additional dye is put in, to prevent spotting the goods.

12. "Green on Woolen with Bark.—Take 1 pail of hickory bark, or the rinds from the nuts, and boil for 2 hours; then add blue vitriol, 2 ozs., for each lb. of goods. Dissolve the vitriol before putting it in. Boil the goods 1 hour, and air them, and boil again. If not green enough, add alum, 2 ozs., with more bark. The quercitron is a substitute for hickory bark as well as for oak.

13. "Blue.—For each lb. of goods, take alum, 4 ozs.; and cream of tartar, 2 ozs. Boil 1 hour. Empty the kettle, rinse the goods, and refill your kettle with clean water and bring to a scalding heat, and add, of *chemic*, or *indigo compound*, No. 3—until the color suits.

14. "Prussian Blue.—For each lb. of goods, take oil of vitriol, and Prussiate of potash, of each, 2 ozs.; red tartar (it is the crude tartar, or argol, from which the cream of tartar is made), 4 ozs. Put the above ingredients into a kettle with sufficient water to cover the goods, and put them in as soon as it is luke-warm. Keep them in for 2 hours; then make it boil for $\frac{1}{2}$ hour, and you will have a beautiful Color. To make it more durable, empty your kettle and fill with clean water, and 4 ozs. of alum, for each lb. of goods, and boil for 1 hour. If not dark enough, add logwood to suit, and boil again.

15. "Tan Color.—For each lb. of goods, use camwood, 4 ozs.; madder, 2 ozs. Boil 10 minutes; then put in the goods and boil 1 hour; then add copperas, $\frac{1}{2}$ oz., and boil $\frac{1}{2}$ hour longer, and if not dark enough add more copperas, and boil again.

16. "Snuff Color.—For each lb. of goods, have camwood, 2 ozs.; and fustic, $\frac{1}{2}$ lb. Boil your camwood and fustic for $\frac{1}{2}$ hour in sufficient water to cover the goods; then put them in and boil 1 hour. Take out the goods and add blue vitriol, $\frac{1}{2}$ oz., and copperas, 1 oz., and boil the goods 1 hour, and rinse well.

17. "Dark Brown.—For each lb. of goods put into your kettle camwood, 4 ozs.; fustic, $\frac{1}{2}$ lb. Boil $\frac{1}{2}$ hour; then put in the goods and boil for 1 hour. Then add blue vitriol, $\frac{1}{2}$ oz., and copperas, 2 ozs., and boil 1 hour, and rinse.

18. "Madder Brown.—For each lb. of goods, 2 ozs. each, of madder, and camwood; fustic, 4 ozs., and boil $\frac{1}{2}$ hour. Boil the goods $\frac{1}{2}$ hour. Take them out and air, then boil again for 1 hour. Now add blue vitriol, and copperas, of each, 1 oz. and boil 1 hour more, and if not dark enough, add more copperas, and rinse.

19. "London Brown.—For each 20 ozs. of goods, take camwood, 7 ozs. Boil the goods and camwood together for 2 hours; then add blue vitriol, 2 ozs. and boil $\frac{1}{2}$ hour. If not dark enough add more vitriol, and a little copperas, and put in again. In any case where it is desired to have a *very* dark Brown, add a little soft soap, say $\frac{1}{2}$ gill, or 1 oz. of saleratus will do the same thing, or $\frac{1}{2}$ pt. of cold ashes from the stove clear of coals, will do as well. Manufacturers using the

ordinary sized dye-kettle may throw in a shovelful of ashes with the same success.

20. "**Wine Color.**—For each lb. of goods, take camwood, 7 ozs., and boil $\frac{1}{2}$ hour. Put in the goods and boil 1 hour; then add blue vitriol, 3 ozs., and boil $\frac{1}{2}$ hour. If not dark enough add more vitriol, and boil again.

21. "**Maroon,* or Brownish Crimson.**—For each lb. of goods take blue vitriol, 1 oz., and boil the goods in it for $\frac{1}{2}$ hour. Of course, in all cases as heretofore explained, use sufficient water to cover the goods well, then add cudbear,† 1 oz., and boil $\frac{1}{2}$ hour more. If not dark enough add more cudbear.

22. "**Black.**—Black is one of the most substantial and useful Colors that is made. It is used as both ornamental and useful, and is worn from the cradle to old age, by the lowest and the highest grades of society; still, the manner of Coloring a permanent, and unfading Black, is but little understood by the people. I shall give a few Receipts only, which if followed carefully, will, under all circumstances, enable *families*, or *manufacturers*, to make a permanent and beautiful Black:

"For each lb. of goods, or wool, take logwood chips, $\frac{1}{2}$ lb., or extract of logwood, 1 oz.; madder, 1 oz.; fustic, $\frac{1}{2}$ oz.; or yellow oak bark, or what is still better, if convenient, is butternut bark, in place of the fustic. Boil for 1 hour, then boil the goods for 1 hour, stirring, or handling continually; then take out the goods and add copperas, 1 oz., and boil $\frac{1}{2}$ hour; then take out the goods and add copperas, $\frac{1}{2}$ oz., and saleratus, 1 oz., and run the goods another $\frac{1}{2}$ hour; then scour out the goods in strong suds. This may seem to be considerable labor, but if a good, bright, durable Black is desired, it must be submitted to. Don't spare the soap, in washing it out, then rinse well.

23. "**Black on Woolen with Bark.**—Take 1 pailful each, of butternut, black-walnut, and white-oak barks. Boil them 1 hour; then put in the goods, and boil 1 hour more; then take out the goods and bark, and add copperas, 2 oz., and boil again." (See note after No. 6 for a substitute for oak bark.—AUTHOR.)

24. "**Black on Woolen with Different Barks.**—Witch-hazel, soft-maple, and black-oak barks, of each, same as No. 23, and boil the bark 1 hour; then boil the goods 1 hour; then take out, as before, and put copperas, 1 oz., and blue vitriol, $\frac{1}{2}$ oz., and boil again.

25. "**Shawls and Other Old Goods—To Re-Color.**—When it is desired to Color Shawls black, the old Colors need *not* be extracted, or drawn, but simply after having been thoroughly washed, to put them into the black dyes, as other goods; but to make the new Color a brown, it will be necessary to extract the old Colors, as seen under that head, No. 43, and also, if there is any cotton in the Shawl, they must be first *prepared*, by dipping into copperas and blue vitriol, 1 oz. of each, to 1 pail of water, for each lb., and then into lime water also, otherwise the Colors will fade, on the cotton part of the Shawl.

*A Maroon is a Brownish Crimson, or chestnut color, taking the name from the French *marron*, a large chestnut, sometimes also called a claret.

†Cudbear is prepared from a species of moss, I think, found in Scotland, and, perhaps, taking its name from *corcor*, or *corcur*, meaning scarlet, or a purplish crimson; and Webster rather concludes that the name may have been a corruption of *Cuthbert*, Dr. Gordon's given name, who introduced the article to public notice as a dye.

26. "Scouring Wool.—Fill your wash boiler with soft water and put it upon the stove, adding soft soap, and salt, of each, 2 qts. and bringing to a boil. Put into a tub, or barrel, 5, or 10 lbs. of Wool, and pour the liquor from the boiler upon it. Let it stand until quite cool, take out, drain, and rinse until the rinsing water is clear. The same liquor will do for a new batch of Wool by heating it again. *Never rub, or pound Wool, as it 'fulls' and spoils it.*" (Manufacturers will see, also, **CLEANSING WOOL.**—AUTHOR).

27. "Silks—Same Colors as on Woolens.—Silks may be Colored in any of the woolen dyes, by the same processes, except that *less dye-stuffs, less heat, and less time* are required, remembering also, that Colored Silks require even less dye-stuff than white Silks.

28. "Coloring Cotton Goods.—To give permanent and bright Colors to Cotton goods the processes, or rather the preparations must be different from woolen, as their natures are entirely different—wool takes the Color *into* the fiber, but Cotton only upon the *outer* part of the fiber, and must, therefore, be well prepared, if you desire permanent Colors, which shall not run at the first washing, and that the sun shall not change by a few days' exposure.

"First, then, make a liquor with sumac, and yellow-oak bark, of each, $\frac{1}{2}$ pailful to 1 pailful of water, by boiling 1 hour, adding as much water as evaporates; then steep the goods, in this liquor, for a few hours; then dip them 5 to 10 minutes in luke-warm copperas water, 4 ozs. to a pailful; then into luke-warm lime water, a piece of stone lime the size of your fist, to a pailful; then put them in the sumac liquor again, for 2, or 3 hours. This will give you a foundation for a good, permanent Color. The Goods will be wrung out well, in passing from one liquor to the other.

29. "Black.—For each lb. of Goods, use logwood, 8 ozs. and white-oak bark, 4 ozs. Boil 1 hour, and dip the Goods in this $\frac{1}{2}$ hour; then air and dip again. Of course, the Goods having been *prepared* as above, in No. 28.

30. "Green.—Prepare as above, then dip in an indigo dye, or add the *indigo compound*, No. 3, and dip until it suits.

31. "Tan.—Boil equal parts of sumac, yellow, and white-oak barks, 1 pail of green bark to 1 pail of water, for 1, or 2 hours; and steep the goods in this liquor 4 hours; then dip in the copperas water and the lime water; then into the liquor again, and then into the copperas and lime waters, as given in No. 28, until the Color suits. A substitute for the above barks would be hemlock, white, or black ash, or the two combined.

32. "Yellow.—For 1 lb. of prepared Goods in all cases, sugar of lead $1\frac{1}{2}$ ozs. dissolved in hot water; also bichromate of potash, 1 oz., dissolved in cold water, by mashing and stirring, then dip the Goods first into the hot, lead water, then wring out and dip into the cold bichromate water, alternating from one to the other, wringing each time until the Color suits. This will work equally well on carpet rags, as on new goods.

33. "Orange.—Take the Yellow Goods, Colored by the last Receipt, No. 32, and dip it into lime water until it suits.

34. "Green.—Take the Yellow of No. 32, and put some of the indigo compound, No. 3, in clear water, and dip into that until it suits. If on 2, or 3 dippings, it is not sufficiently deep in Color, put in a little more of the *indigo compound*.

35. "Another Orange.—For each lb. of goods copperas, 6 ozs. to 3 gals. of water, in a kettle, make as hot as you can handle the goods with the hand; having dissolved bichromate of potash, $\frac{1}{2}$ lb. in a tub, dip first into one then into the other, until pleased by the shade of the Color. This will become brighter and brighter, by washing. It is proper to remark, here, that in Coloring small amounts of goods, more dye-stuffs are needed, proportionally than for large amounts.

36. "Drab, or Brown.—*Prepared* cotton goods may be Colored any shade from a *light drab* to a *dark brown* by first dipping them into bichromate water, $\frac{1}{2}$ lb. to a pailful for $\frac{1}{2}$ hour; then into a liquor of catechu, 4 ozs., to 1 pailful of water, boiled, and used hot, for $\frac{1}{2}$ hour also. The bichromate water to be used cold. The length of time dipped will govern the shade.

37. "Purple.—Color the *prepared* goods a light blue, in the common blue-dye tub, or with the indigo compound, No. 3, then dip them in a logwood dye until the shade suits.

38. "Drab.—White-ash bark, 1 pailful, and boil 1 hour. Take out the bark and boil the goods 1 hour, then darken by dipping into copperas water, 4 ozs. to the pailful, until the Color suits. Soft maple, or witch-hazel barks are a substitute for the white-ash, when that can not be got. One lb. of dry bark takes the place of 1 pail of green.

39. "Yellow Drab.—Take 1 pailful of white-ash bark, and yellow-oak bark, $\frac{1}{2}$ pailful. Boil 1 hour; then take out the barks and boil the Goods 1 hour; then darken with copperas water, 4 ozs., to 1 pailful, until it suits.

40. "Slate Drab.—White-ash bark, 1 pailful, and $\frac{1}{2}$ lb. of logwood, and boil 1 hour, then remove the bark and logwood, and boil the Goods 1 hour—in all cases the Goods having been *prepared*—then darken with blue vitriol, 1 oz., and copperas, 1 oz., to 1 pailful of water, until the shade suits.

41. "Madder Drab.—For each lb. of goods, in all cases, unless otherwise mentioned, take Madder, 2 ozs.; white-ash bark, 1 pailful. Boil $\frac{1}{2}$ hour. Take out the bark, and boil the goods 1 hour. Darken with copperas, first by putting in a piece the size of a hickory nut. If not dark enough, take out the goods and add more, until pleased.

42. "Red Drab.—White-oak bark, 1 pailful, camwood, $\frac{1}{2}$ lb. Boil 1 hour. Remove the goods and darken the dye with copperas and blue vitriol, of each, the size of a hickory nut, at first, and boil the goods again, and if not sufficiently dark, take out the Goods, and add a little more of each, to suit.

43. "Extracting Colors from Old Goods.—For each pailful of water, boiling hot, add about 2 table-spoonfuls of oil of vitriol, and put in the goods for about 10 minutes; and if the Color does not start, take them out, and add another spoonful of oil of vitriol, and put in for the same length of time; and as some Colors do not start as readily as others, if by the second steeping this Color does not start, repeat the operation, by adding a little more of the vitriol at a time, until the Color does wash out readily; after which they may be Colored again, the same as though they had never been Colored."

ANN ARBOR, Michigan, November 1st, 1872.

Having written the foregoing Coloring Receipts expressly for Dr. Chase's New Receipt Book, for value received, I hereby give him my entire right and interest in them as their Author, which he may secure to himself by copyright, the same as though he had written

them, and I further certify to their being the same as I am constantly using, and with which I have succeeded in making entirely satisfactory Colors.

H. STORMS.

Aside from the Coloring Receipts which Mr. Storms has written for me, as above, I have a few others, obtained from various sources, some from valuable friends, who have used them for considerable time, which, as they are different from the others, I have thought best to give them, as the old plan of the "Dye tub in the corner" may still be preferred by some, it will be found among them. Certainly the old-fashioned *blue* can hardly be beaten for depth, or durability of Color.

And as that old, time-honored, tub sometimes gets "a witch in it," a word of explanation is required to get her out, of course witches are always women, *i. e.*, sometimes the Color does not "take." The difficulty is, it needs more strength of alkali—urine is alkaline—and combines with the indigo and is weakened by constant Coloring, so much so, it needs more alkaline strength; then make a lye from good wood-ashes, strain it and add of it to the "blue dye tub," a little at a time, until the Color "sets" on your hand and will not wash off, then it will work again, all right.

44. Old Style—Dark Blue on Wool.—Families which desire to Color a Dark Blue on Wool, that will be good and permanent, must use indigo and urine; for Blue from any other thing will not be as permanent nor as pretty.

The Bengal indigo is the best, and may be known by its dark blue shade, having also a coppery hue. For use it must be thoroughly pulverized, and put into urine, or about 6 qts. of bran may be covered with sufficient soft water to yeald 1 gal. besides what the bran takes up. This may be strained, after fermentation, and added to 4 eals. of urine; using indigo, 4 ozs.; keeping these proportions for any amount needed, and set the tub, or earthen jar, in which the dye is made, in a warm place, and cover it, and stir it occasionally for 5 or 6 days, as it must undergo a fermentation in the urine mixture, before the indigo will yeald up its Color. This will be known by the dye assuming a dark green shade, in appearance. The Wool may now be put in loose and stirred occasionally, for an hour; then lifted and wrung out, in the tub, as it will also Color more of a lighter shade. The Wool will be a dark green when wrung out; but by hanging up, it absorbs oxygen from the air, giving the deep Blue; then it may be washed in cold water and dried, for carding. If a Dark Blue is required on all of the Wool to be Colored, and it is required to Color considerable, you can prepare two tubs of dye; and for the 2, or 3 last batches, first dip them into the tub where the first was Colored, to take up all of the indigo possible, in the dye, airing between the dippings.

The Wool, to take Color, must be free from grease, it is well, therefore to wash it thoroughly just before dipping, as the Wool being wet, takes the Color more evenly.

45. Another Dark Blue may be dyed on Wool by the use of bichromate of potash, alum and logwood.

For 5 lbs. of Wool, dissolve 2 ozs. of the bichromate, and alum 1 oz. in sufficient water to cover the Wool, or goods, by boiling; the Wool being free of grease and wet, put into the liquor and boil for an hour, stirring with a stick occasionally; then lifted out and allowed to drip, air and rinse, while the bichromate liquor is thrown away,

and replaced with clean water; and 2½ lbs. of logwood chips, sewed up in a bag, and boiled for 1 hour; then the Wool is put in and the boiling continued for 1 hour more; after which it is to be lifted out and aired, washed and dried. The extract of logwood 6½ ozs. can be substituted, if preferred, for the "chips," and this last plan will make a passable Blue; but not so permanent, or pretty, as the first.

46. Green on Wool, or Silk, with Picric Acid.*—Dissolve the Picric Acid in water, and add sufficient sulphuric acid to make the mixture a little sour; and then add the imported carmine of indigo according to the shade of green desired. The indigo compound, No. 3 will do very well.

For Silk add a little alum, to the dye.

47. Pink on Silk.—Use a small quantity of Brazil-wood liquor with sufficient muriate of tin to make the dye a sharp sour, using a clean kettle, and handling the goods in this until the desired shade is obtained then lift and wash in cold water; then run through soap suds, and wash again. The suds gives the necessary blue tinge required for a Pink shade.

48. Old Silk Ribbons, to Renovate and Re-Color.—A Maroon.—Hard, or "lute string" Ribbons cannot be satisfactorily Renovated; but, plain, soft Silk, and figured Ribbons can be made to take a beautiful Maroon. Pink, light blue, or salmon Colored, may be Renovated and Re-Colored to give entire satisfaction. Open out all their plaits, or folds, and sew them together.

In a tin pan of clean soft water, dissolve sufficient soap by cutting into thin slices, to make it feel quite slippery to the fingers, then bring it to a boil, and, if not sufficiently soapy, at first, add a little more; then boil the Ribbons in the suds for 30 minutes, keeping the Ribbons, or silk under the suds, which removes any grease and discharges, or dissolves out the old Colors. Wash, to remove all the soap. Now stretch out and fold down. Dissolve alum, 1 oz. to soft water, 2 qts., or in this proportion to Color the goods, in a stone-ware vessel, using hot water to dissolve the alum; and when cool to milk-warm, handle the Ribbons for a few minutes, then leave them to lie loosely in this alum water for 1 hour; then take out and rinse, gently, in clean cold water, when they are ready for the dye, proper; made of *hypernic*—red dye-wood—4 ozs. to sufficient water, say 2 qts. to cover the goods, boiling the dye-wood for 15 minutes, and pouring the clear liquid into a stone-ware vessel and handle the Ribbons for 10 minutes, in this dye, or until they are of a deep red color; then take out and add a small quantity of extract of logwood dissolved in hot water to the dye, and stirred, and the Ribbons handled again, in this mixture for 10 minutes more, or until the Maroon shade suits you. Last of all wash in cold water and hang up to dry. Must always be sufficient dye, or water used to cover the goods well.

To dress, or gloss them, have a little gum Arabic dissolved in water, weak, and sponge them on the *right* side, and, with a hot iron, smooth them on the *wrong* side. Families, as well as merchants that have old Ribbons on hand which do not sell on account of being "out of style," can, for a trifle, per yard, make them of value; and milliners also, can turn this to good account.

49. For Carpet Rags—Yellow.—For 3 lbs. of rags, or cloth,

* Picric Acid is a mixture, or Acid having magnesia and iron in combination, of a greenish shade, somewhat similar to copperas in appearance, only more fibrous.

sugar of lead, 6 ozs., dissolved in hot water, in brass, or tin; and, the rags having been washed, if they need it, if not, being wet and just wrung out, dip them in the lead-water, and have ready, bichromate of potash, 3 ozs., dissolved by mashing and stirring in a tub of cold water, sufficient in both cases, only to cover the goods nice¹. then dip the goods from the lead water to the bichromate water, wringing out the dye, each change. It takes quickly; but if not sufficiently deep the first round, dip again, as before, until the Color suits.

And, if you desire different shades of rags, have sufficient in this Color to take a part of them for an:

50. Orange, made by dipping these yellow rags into lime water, made by dissolving lime in cold water and let settle; then pour off the clear and heat it for the dipping—gives you a nice Orange. And, for:

51. Green, take some of the yellow and dip into the blue dye, following, after you have Colored your blue, makes a beautiful green.

52. Blue.—For 3 lbs. of goods, dissolve copperas, 3 ozs., in sufficient water to cover the goods, in an iron kettle, and boil the rags therein; then, in a brass kettle, dissolve Prussiate of potash, 2 ozs. in sufficient water, and add to it, after the potash is dissolved, oil of vitriol, 1 oz.; and dip the rags in this also—repeating if need be. The green is made by dipping the yellow in this, as above mentioned.

These 4 colors are from a lady carpet-weaver who has used them over 3 years and knows them to be good. If they will Color rags, they would Color warp-yarn, or cloth as well; but, of course, they would not have the permanency to stand the sun, like Mr. Storm's Colors, which receive the several preparations—they are suitable for Carpets, or indoor-wear.

53. Murexide and Analine Colors.—It is but proper, before closing the subject of Coloring, to refer to a class of Colors of more recent discovery, or, perhaps to speak more correctly, to say, of more recent use—the Murexide* and Analine.

Although I shall not enter into the plan of using these Colors particularly, I will refer to an improvement made in the use of the Murexides, on fine woolen goods, as given by the *Glasgow Practical Mechanic's Journal*. It says:

"The wool after being cleansed is boiled for an hour in an *acidulated*" (made a little sour) "bath of tartaric, citric, or oxalic acid, or the MURIATE OF TIN" (as found in the Receipts above) "with the acid slightly in excess. After this the wool is steeped in cold Murexide for about 2 hours, when it assumes a beautiful amaranth Color. To the solution, a small quantity of dissolved corrosive sublimate is now added, when the wool assumes a most beautiful crimson shade."

This will enable those who have been using the Murexides to avail themselves of the improvements

*MUREX is a Latin word, referring to a purple fish, and Murexide is the purpurate of ammonia, a very nice purple, coming either from the fish, or from the *purpurin*, a purple Coloring found in madder. Purpuric acid is the production of nitric acid upon lithic, or uric acid, the first may be from an alkaline mineral, called *lithium* but it is often used synonymously, or meaning the same as uric acid which is derived from urine; but all come back to the starting point—purple—a very beautiful, but rather fleeting, or fading Color. But few, if any, now, are able to make as pretty and as permanent a purple, as was anciently done for the royal purple, worn only by the nobility—we only get an approach to it.

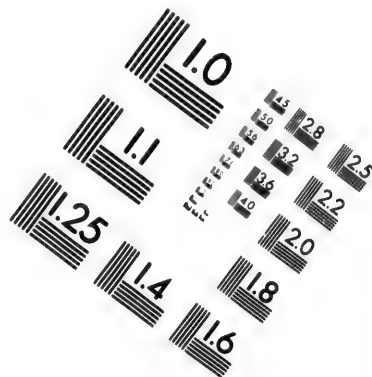
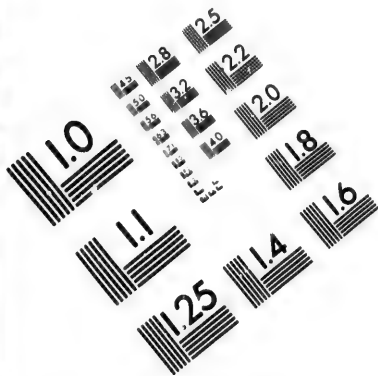
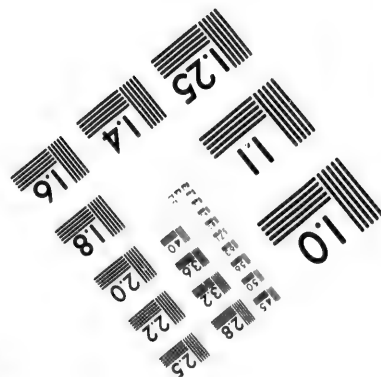
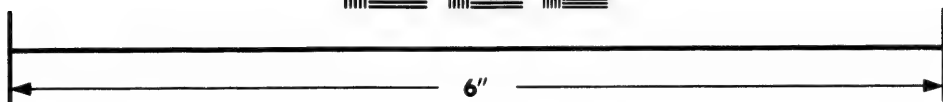
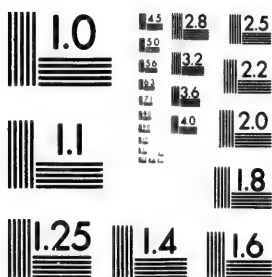


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54. Aniline Colors—On Silk, or Wool.—For Aniline* Colors, no mordant is needed; but *cotton* needs to be prepared with an infusion of *sumac*. The Aniline Colors are dissolved in alcohol and used warm, the goods being perfectly clean.

Thus it will be noticed, that *cotton* goods, as Mr. Storms says, must have the *sumac* preparations.

1. CONCRETE BUILDINGS IN THE UNITED STATES AND EUROPE—Their Cheapness, Security, and Methods of Construction.—The word Concrete comes from the Latin *con*, with, or against, and *crescere*, to grow; then to grow, or put together a mass of stone chippings, pebbles, etc., and Cement them together with a water-lime mortar, making a whole, or perfect solid mass, was formerly, in architecture, the meaning of the word; and, at first, it was resorted to only in soft, or wet and spongy foundations where a stone, or brick wall could not be well built from the settling of some portions of the wall, more than others, causing the building to crack, whereas, with the chippings of stone, pebbles, etc., being first pounded into the soft and wet ground, then more of them mixed up with water-lime mortar, or Cement; by which means a firm and solid foundation was obtained that did not crack, nor give way from the weight of the Building. Then the true signification of the word Concrete is the putting together a mass of such substances as will unite, or Cement together and make a *perfect union*—in fact, an *artificial stone*. And the article most generally used for the *Cementing* part of this purpose, now, and probably also the best, is the Portland Cement.

The failure, in the United States, where *first cost* is considered of greater importance than *durability*, has arisen from the use of common lime, instead of the Portland Cement, or other good water-lime. If it is desired, then to have *durable* Buildings, and such as will have the necessary *strength*, not to fall while Building, we must do as they do in Europe, go back to the Portland Cement in place of common lime; and no further trouble will be experienced; and this will hold equally good upon the outside plastering, or "stuccoing," as it is often called, as upon the Building of the walls. The common lime does well for inside work, and for the joints in brick, or stone walls, when only an edge of it is exposed to the air; but when the whole surface is exposed, as in outside plastering, it, in a measure, loses its *Cementing* power, otherwise, does not possess such power at the first, which is the more probable.

Although Portland Cement should be used in putting up Concrete Buildings, yet, even if mechanics are employed to do the work, from 30 to 40 per cent of the *cost* of Building would be saved, as compared with brick, or frame Buildings, but if only one mechanic is employed, who should be capable of knowing when the mortar, or Cement is properly made, and of carrying up the corners plumb, etc., and the rest of the work done with common laborers, the saving would be about 50 per cent, or only about *one-half* the ordinary expense of Building.

After the foundation is all complete, the walls are carried up by

* Aniline has reference to analysis, or a separating into elements, or first principles, as the Aniline Colors are separated from coal tar, and other substances that, at first thought, would not be supposed to contain any such principles, or elements. They also, are not as durable as the old plan of Coloring as given by Mr. Storms, although they are very striking and pretty, at first.

means of plank boxes, or frames; (if a thing may be called a box that has neither a top nor a bottom nailed, or fastened upon it) the plank being not less than 2 inches thick, screwed together, or rather as many inches *apart* as the wall is to be thick, by the use of screw-bolts, 2, or 3, or 4 feet distant from each other at the bottom, and clamps at the top, as most convenient, which any carpenter would know how to make who might be called upon for that purpose, who would also get up the door and window frames of the same width of jamb that the walls were to be thick, so that the plank come neatly up to the window frames, at the same time they are not at all in the way. These plank may be from 12 to 18 inches wide, according to the size of the house to be built, and the help to be employed, as one filling of these plank, or boxes, daily is all that can be done properly, for it is best to give the Concrete ample time to set, or unite with the cobble, stone, chippings, broken brick, or gravel that may be used in the walls—raising them in the morning, and covering them, when filled, to prevent a too speedy drying out by the sun, or wetting from rains. If help enough is employed, one tier of the width of the plank, may be added, daily, to the height of the walls.

2. The great fire in Chicago, about a year ago, awoke a very considerable discussion among the newspapers about a *fire-proof*, as well as a *cheap* material with which any class of Buildings might be Constructed. The *Scientific American* made the following remarks, which it will be seen corroborates our position, as well as adds some new items of practical value. It said:

"The recent fire in Chicago has called forth a general discussion on the subject of fire-proof Building, and Building in general, and although we have said much at different times on the subject of Concrete Building, the present seems a favorable opportunity for calling our reader's attention again to this important subject.

"Slowly but surely, in spite of many failures on the part of experimenters, *is the truth becoming established that artificial stone can be made as durable as most natural stones.* There have been many humbugs practiced, but these, though they have hindered progress, have not totally checked it. The artificial stones made by the Sorel, Frear, and Ransome processes, and those made with Portland Cement, are all good, reliable stones. Of these, however, only the latter can be used *in situ*" (it means here, *upon the spot*, instead of "in its original situation," which is the literal translation of the sentence) "for Concrete walls, and it is of the latter that we propose to speak more particularly in this article.

"The erection of Concrete Buildings, or at least partially Concrete Buildings, promises, we think, a complete solution of the problem of *cheap* Building for working men. Of all materials, we know of none that compares with the Portland Cement for this purpose. It has proved its value in extensive works in Europe, where, in addition to the usual effects of weather, it has had to endure the constant action of sea water. It hardens perfectly in a few hours, and forms, with sand, a Concrete, rivaling, in hardness and compactness, the best Building stones in use. It can, by the addition of coloring matters, be given tints resembling brown sandstone, or Nova Scotia stone, *while it is far more durable than either.* It is *much* cheaper than bricks and mortar, and can be easily molded in ornamental forms. It possesses far greater strength than ordinary brick work, and looks better when fin-

ished. It is as well adapted to inside as outside work, and may be wrought into floors and partitions. It is *incombustible* and as *imperious* to water as any stone in use.

"With all these advantages, it is steadily making progress against prejudice, and we have not the slightest doubt that it is destined to a far greater popularity in the future than it enjoys at present.

"This Cement unites readily with sharp, clear sand, gravel, broken bricks, pebbles, flat stones, cinders, etc.; and water limes may, in some climates, be economically used in connection with it.

"To erect Buildings of this Concrete requires only the skilled labor necessary to place properly the frames, in which the Concrete is molded, and the frames of doors and windows. For warehouses, it admits of the use of iron for pillars and braces, while everything else, floors, partitions, ceilings, etc., may be of Concrete. It is estimated by an expert of this city that 100 cubic feet of Portland Cement Concrete wall can be constructed for \$22.75.

"If plastering is used on interior walls, only one coat is required, so that this item of cost is considerably lessened.

"For sidewalks this Cement also furnishes a cheap and beautiful material, which can be formed in blocks on the spot, presenting a perfectly uniform surface, rivaled only by cut stone.

"The rebuilding of Chicago furnishes an admirable field for the employment of Concrete; and we trust that, as economy must be consulted, our Western friends will be induced to turn their attention to the system, as it offers advantages possessed, as we believe, by no other."

3. The *People's Journal*, of Philadelphia, in speaking upon this subject, at about the same time, referring more particularly to the fire-proof part of the demand, in large cities, and large warehouses, says:

"The buildings proposed are to be of Concrete throughout. The floors are to be an artificial stone made of Cement and sand. Iron is to be used alone for supporting the floors and roof, and for bracing the Building.

"Concrete Buildings already have had their capabilities fully tested by use. The public Buildings at Cherbourg, Marseilles, Toulon, Woolwich, Dover, Alderney and Eddystone, together with several on our own coast, are Built of Concrete. It is frequently used in England as foundation walls. The immense sheds of the Metropolitan Railroad Company at West Brompton, the College of Surgeons, and Wellington Barracks, and many houses in Pall Mall, Lincoln's Inn Fields, St. Jame's Park and elsewhere in London, are built of it. In Spain and in the south of France it is used in the Construction of common houses. In Sweden and Northern Germany it is largely used for Building purposes, the dwelling houses Built of it having double walls, which protect the inmates from vermin, and produce a more equable inside temperature."

It is not expected that farmers, or people of but moderate means, will adopt the iron beams, or the Cement floors, to make their dwellings absolutely fire-proof, this being necessary only, in warehouses, and other large Buildings in the cities; but it is believed that farmers, who have their own teams to do the hauling, cobble-stones, gravel, and perhaps sand also, upon, or near their places of residences, and have farm help, to assist in putting up the walls, can Build these Con-

crete dwellings, at, even a considerable less *out-lay* than given above; by the *Scientific American*, the Cement being the largest expense out, so far as the walls are concerned.

4. The *Aberdeen Journal*, in giving an account of Concrete Building as practiced in Scotland, gives the following instructions:

"When operations are to be commenced, a quantity of packing, which may consist of rough stones of any shape, the more rugged the better, which forms the first layer of the Building, is thrown in, care being taken to keep the packing 1 inch from the face of the work, so that it may not show through it. When the 18 inches of packing are filled up, the Concrete, which is in a semi-liquid state, like mud, is poured into the box and percolates down through the stones, thoroughly filling all cavities, and binding the stones and rubble together so tightly that the whole forms one solid mass. For a day, the portion of wall thus made lies encased within the boxes. By that time it has become quite dry, and the box, or frame is taken off and lifted up another 18 inches, the bottom of the frame resting where the top was before. Thus another box is formed above the piece of finished wall, and identically the same process which we have described is repeated, stones and rubble being thrown in, and the liquid Cement being poured over them. In this way 18 inches of Building are finished each day if the weather be good, so that in the course of a week the walls of a cottage 8 or 9 feet high are strongly and firmly Built."

I must say here, however, that I do not think the idea of filling the box, or frame in which the walls are made, entirely full with stone before putting in the grout, or liquid Cement, is good, for in such cases, I have seen that some obstruction prevented the Cement from filling all of the crevices. The better way, I believe, is to fill only *one-half* full, then put in the Cement, all around the Building, by which time it will be sufficiently set to allow filling in the other half, and grouting up again, by which means a more perfect job, or filling of the crevices will be accomplished.

After giving some other items that would be of no particular interest to my readers, the *Journal* proceeds to say:

"The outside walls, when built, are finished with a coating of Concrete, about a $\frac{1}{4}$ of an inch thick, a little finer in the quality than that used for the ordinary Building, which gives a smooth finished appearance to the structure. No supports are requisite for the lintels of the doors, or windows, because after the Concrete is hardened, it is stronger than any support of wood, or stone.

"Houses finished in the way we have described are much cheaper than those built in the ordinary way, the saving being from 35 to 40 per cent. The buildings, at the same time are more comfortable, because, being impervious to moisture and heat, they are warm and dry in Winter, and cool during Summer. The rooms can be papered over the bare walls, no lath, or plaster being required, though a coating of plaster in no way affects the Concrete, if it is preferred.

"An important element, of course, in the process of building is the Concrete, or Cement itself. It is burnt down from stone somewhat the same way as lime, but, of course, is of an entirely different nature. When the Cement is to be used, it is mixed with rough sand, generally for ordinary purposes in the proportion of 8 pailfuls of sand to 1 of Cement. The two are mixed simply in the ordinary way, water being poured over the sand and Cement until they are in a

semi-liquid state. When the sand is sharp and shelly, the Concrete can be made in proportion of 9 pailfuls of sand to 1 of Cement; while in other cases again, where the sand is of a soft, inferior description, 1 pailful of Cement is necessary to 7 pailfuls of sand."

5. In some parts of Europe where they have plenty of river gravel, which they prefer to other gravel, as it is freer from loam, or dirt, they use of this clean nice gravel, 7 bu.; clean, sharp sand, 1 bu.; and Portland Cement, 1 bu.; mixing it thoroughly, while dry, then wetting it, and mixing it into a nice mortar, and lay it up in *frames*, as in the United States, except that, as remarked, at the commencement of this subject, our people have used common lime, and even less of that than they do of Cement in Europe.

These proportions, 7 of gravel to 1 of sand, and 1 of Cement, may be taken as a fair thing where a good and durable Building is desired.

6. In putting on the joice, it is best to have every fourth, or fifth one to go about half way through the wall, having a 2-inch hole bored through the end, and a pin of about 1 foot in length, driven through them, to act as an anchor to stay the walls from spreading; the same anchoring should be made across 3, or 4 of the joice sideways, the same as is done in brick Buildings, by means of iron rods bent up at the end going into the wall, inside of which a piece of wood a foot, or two long may be laid, in such a way as to act as an anchor, in the wall as the pin does in the end of the joice; the iron strips to be pierced with nail holes at the proper distance to nail them across, as above mentioned, to 3, or 4 of the joice.

7. A fair idea of the cost of putting up these Concrete walls may be got from the following communication of a correspondent of the *Country Gentleman*. He says:

"I find that cobble stone packed in Cement mortar, between boards laid" (stood on edge) "on the wall, raised as fast as it sets, makes a *cheap and substantial* Building. It is *rough coated*" (plastered) "on the outside; blocked off, and colored in imitation of stone. No finish can excel this in *beauty*, or *durability*. In the country, such finish blends harmoniously with the landscape, is pleasing to the cultivated eye, and winning to the senses. I Built an ash-house, and smoke-house 8 feet square by 7 feet high, Cemented bottom, and beautifully finished, for \$12. It answers every purpose for such a Building. I Built a boiler and hog-house, 18 feet square by 12 feet high, and finished on the outside, at an expense of \$50. *I can keep corn in it clear of rats*. I Built a *drying house* for a keg-manufacturing company, 18x22 feet, by 10 feet high, at a cost of \$100. It has sustained a great heat, sufficient to have fired a wooden Building, and it answers every purpose. Apples could be dried in such a house to good profit. The stone were gathered from the adjacent grounds, and were of all sizes to fit in a 10 and 20-inch wall" (I should say, never build one of these Concrete walls less than 12 to 15 inches thick). "Farm hands can work on such walls, having a *master mason* to direct the labor. Where stone are plenty, Buildings of this material can be reared for *one-half the cost of wood*. For dwelling houses, strips of boards are laid up in the wall, to nail upright strips for lathing upon, to give an air-chamber to avoid dampness."

Along the road-sides and cross-fence corners of hundreds of farms, I have seen sufficient stone laying, from the size of a man's

first to that of his head, and I am sorry to say over many fields also, to Build a dwelling, and all of the necessary smaller Buildings required for the convenience of the place, and most all, if not quite all, of such Buildings very much needed to be *re-Built*, or otherwise Built for the *first time*; yet, when they come to Build, they would ignore all of their own material and by brick, or Build a more *perishable*, as well as a more *expensive* house—a frame. If such a course is still pursued, after the reading and proper consideration of the foregoing remarks, I shall be very much mistaken, which I sincerely hope will not be the case.

CONSUMPTION AND CLIMATE.—I notice the following item making the rounds of the newspapers, as coming from Hall's *Journal of Health*:

"We have long considered it one of the inhumanities of man, to man, in so glibly advising persons to go from home to distant places, involving, many times, ruinous expenses, *especially when it is given as a last resort*—advice often given when everything possible has been done and tried without efficacy, merely on the ground that possibly it might make some change for the better, while the overshadowing probabilities are that death will be the result anyhow. *Any man who is considered by an intelligent physician to have actual Consumption, ought by all means to stay at home.*"

My reason for referring to this disease in these Miscellaneous Receipts is to call attention to what I consider the *main error* in this item, for I believe it is calculated to do *harm* instead of good; it has only one redeeming point in it; and that is the first sentence which I have written in italics—"especially when it is given as a last resort." This is sensible, if persons have waited so long before making a change of climate, from the *Central*, or *Eastern States*, to that of *Minnesota*, or some other place of a higher latitude, where the air is light, dry, and pure, that it is "the last resort," it is probably too late for an ultimate recovery; but the last sentence in the article, I consider an *absolute error*, and I have sufficient data upon which to found a different opinion; for I have been there, with an observing eye, and seen the result so often to be entirely different from Dr. Hall's expectation. I say *exactly the reverse* of his last point—the time to go is just when "an intelligent physician" says that a person has "actual Consumption," and *not wait longer*, for if you do, it lessens the chance of "the last resort," and may not restore to health; but even then, a benefit may be derived, *i. e.*, a person may live several months, or even years longer, by the change; but if they wait until just ready to die, and can take no nourishment except, perhaps a little beef-tea, as one did who came to the Russell House, at Sauk Rapids while I was there, they may only live a couple of weeks, as he did; but rather start as soon as it is *known* to be Consumption, and *then*, yes, I believe *twenty chances to one* that great benefit will be derived.

And as further evidence of the correctness of my views, I shall here introduce a letter from Mr. Allan Campbell, whose case was referred to in the *regular* discussion and treatment of Consumption and whose death is noticed on page 202. As at that writing, I was not able to find his communication, I had considered it so important I had laid it by so safely I could not put my hand upon it. He, being a good writer, and sensible man, and having gone there "*as a last resort*," at a time when he was so low that his friends, and myself among the num-

ber, hardly expected him to live to reach there, it being in the midst of Winter, and yet his surviving for nearly *four* years, when if he had remained in Michigan, I do not believe he would have lived as many *months*, I think his testimony will be just what is needed to set this whole matter of a *Minnesota climate* at rest; for he does not claim that Minnesota is an *absolute cure-all*, for Consumptives, but says he "can not entirely endorse the enthusiasm of many in that respect, though in former years the Climate may have warranted *all* that has been said—having been, I am informed, much more even in temperature, and dryer," showing that he would *honestly give every advantage of all doubts that might arise in any one's mind, from what he believed to be an actual change in the temperatures, or more recent variableness in the climate*; while my own opinion still is that the *variableness* is not a *permanency* but rather, as we say *accidental*, or occurring only occasionally, as in the of Winter 1871-2, which was very severe, while '70-'71, he says was like an Ohio Winter, or mild and gentle. But I will let him speak for himself, remarking, that in any re-setting of this, the "*New Book*" as he calls it, his letter will appear in its appropriate place. He said:

OFFICE OF ST. PAUL DAILY DISPATCH, April 3, 1872.

DR. A. W. CHASE, Ann Arbor, Michigan.

My Dear Doctor—Your letter was long delayed on the way to St. Paul, in some unaccountable manner, and since its receipt, I have been so extremely busy, both day and evening, that even now it is 10 o'clock at night before your letter is commenced.

In regard to my health; I have passed through the Winter, which has been *unusually severe*, "as well as could be expected," having been at the 'office' every day for the whole five months, though many times sorely tempted to succumb; but on the whole I am no doubt better for perseverance. One, or two days, however, when the thermometer stood 20° below zero, I did not go out after reaching the "office." Though not by any means *strong*, as a sample of *endurance*, I will state that for 60 days, commencing January 1st, I reported the daily proceedings of the Legislature.

My case, as you are aware, is a singular one. I do not seem to be any stronger than when you last saw me. *My lungs, however, I am satisfied are greatly better*; indeed, a physician who examined them about a year ago, said there was "nothing the matter with them," The great difficulty I now experience is shortness of breath—something like asthma; must move slowly in walking, and a short distance tires me out. The old cough continues with all its force, especially morning and evening. I have taken no medicine, trusting to *time and care*.

Much has been written in praise of the climate of Minnesota for Consumptives; but I can not entirely endorse the enthusiasm of many in that respect, though in former years the climate may have warranted all that has been said—having been, I am informed, much more even in temperature and dryer. The Winter of 1870-71 reminded me much of a Northern Ohio Winter, but last Winter the changes were *frequent and great*. A noteworthy change was 50° in 24 hours. You know my condition when I came here, and of course I am better now. But the question arises in my mind:—was the *climate* the cause of this improvement, or would I have reaped the same benefit by going elsewhere and taking a three months' rest, as I did here? And I *finally* say "no." (His reasoning, here, I believe to be absolutely correct.—AUTHOR.) There is no doubt that any one coming here as I

did, not allowing themselves to 'fret' about their condition, and attending to business in spite of wind and weather, will, partially, at least, regain their health.

I have endeavored to *honestly express my opinion of the climate of Minnesota*. It evidently does not possess the life-giving qualities to *so great an extent* as in former years. Yet there are many Winter days here, when the inhalation of the pure air seems to give one *new life—exhilarates, intoxicates one*, as it were; those are the days that have given Minnesota its fame and that *lift the invalid out of the slough of despond into which he is so prone to fall*.

Your letter was the first word I have heard from Ann Arbor since you last passed through St. Paul, and you may be sure I was very glad to hear from you. If not too much trouble will you send me a copy of the *Courier* and also a copy of the *University Chronicle*.

I wish your *new Book* all the success the *old one* has attained, and I *doubt not* it will achieve it. Of course, I am interested in the *Courier*, and regret that it has passed from your hands. In thinking of old times and associations, I become more and more interested; and if you could spare time from your duties, which I know are pressing now, to write me again, it would be appreciated. I am very pleasantly situated on a rising daily paper, which suits me, and have a neat little place about a mile from the office, in the finest neighborhood in the city. My wife has one of the public schools about a block from my residence. So much for 'personal.' My regards to Mrs. Chase and all inquiring.

Yours truly

ALLAN CAMPBELL,

Thus it may be seen, that with *honesty of heart*, he has given his opinion, for "the new Book," as he calls it, being very cautious lest he might be in error, causing some fellow being to be disappointed in his expectations, should he go there hoping to improve his health. Taking this letter, together with our remarks here, and under the head of Consumption at page 192, I am willing to allow every one to judge, for themselves, what course they should pursue, charging them, again, if they do go to Minnesota, don't put it off until the last foot is "on the brink of the grave."

Always being willing to give every man credit for the good things he may say, or do, I will close the subject with a very sensible remark from the same journal that this heading began with, wherein Dr. Hall says:

"That the best things to take in any and all cases of Consumption, are exercise, substantial food, and out-door air in large but due proportions; and that, without those, no case of Consumptive disease has ever been successfully treated by any man, living or dead."—See COUGH MIXTURES, SIRUPS, ETC.

1. COOKING FOOD FOR STOCK—When it Pays, and When Not.—Cooking Food for Stock will doubtless pay where everything is convenient, and where well-bred Stock is kept and liberal feeding is required. But not one farmer in a thousand is ready for the work. His farming, his Stock, and his system of feeding are not up to it. There are many other things of far greater importance for him to attend to. To plow under clover in the Summer and steam corn-stalks in the Winter shows great ignorance of the fundamental principles of good agriculture. It will seldom, if ever, pay to Cook in order to save Food; but it will frequently pay to Cook in order to save

digestion. It will not pay to Cook Food for store cows; but it might pay well to Cook for milch cows that are capable of turning more food into milk than they can digest. It will not pay to Cook Food for breeding sows that can eat and digest more Food than they require; but it will pay well again to Cook for a lot of well-bred young pigs which are to be got ready for the market, and that are capable of converting into flesh more corn-meal than they can digest in the raw state.—*American Agriculturist.*

These remarks upon a subject that is being "harped" upon in nearly every issue of the half-way agricultural papers, are the most satisfactory of any thing that I have seen, and coming from a paper so well known and so highly respected as the *American Agriculturist*, will carry great weight in settling this important question.

2. And, no doubt, the following experiment of Mr. Clay, of old Bourbon County, Ky., will be found worthy of great consideration in settling the propriety of

"Cooking for Fattening Pigs.—Samuel H. Clay, of Bourbon, has been experimenting in feeding several lots of hogs, changing them from raw to Cooked, and from ground to unground Food, with the following results:

One bu. of dry corn made 5 lbs. and 10 ozs. of live pork; 1 bu. of boiled corn made 14 lbs. and 7 ozs. of pork; 1 bu. of ground corn, boiled, made in one instance 16 lbs. and 7 ozs., in another nearly 18 lbs. of pork. Estimating corn at 90 cts. a bu., and pork at 8 cts. a lb., we have as the result of 1 bu. of corn, 45 cts.' worth of pork; of 1 bu. of boiled corn, 115 cts.' worth of pork; and of 1 bu. of ground and boiled corn, 136 cts.' worth of pork."

The following statement of John S. Bowles, of Hamilton County, Ohio, to Jos. Harris, which I have taken from the *People's Journal*, of Philadelphia, gives some new thoughts, which may stimulate some to a more profitable plan than they are pursuing in their farming operations. Mr. Harris prefaces Mr. Bowles's letter in these words: "There is nothing I like better than to read such letters. If farmers would talk less, and read, write, and think more, agriculture would make greater progress. Mr. B. says: 'I still stick to hogs in spite of low prices. I have now exactly 165 head. I endeavor to have a lot of about 30 ready for market every three months all the year round. Horse-power thrashing machines are out of date in this neighborhood. Steamers have effectually driven them away. I should have never run a thrashing machine, but I wanted an engine to shell and grind and Cook my corn, and I thought it might as well earn something at thrashing as not. In shelling corn, fuel costs me nothing, as the cobs alone run the engine. I am inclined to think that Cooking Food for young hogs has another advantage besides the mere saving of grain and saving of time in fattening them. I think they are less liable to disease. At any rate, I know that I have fewer hogs die, in proportion to the number kept, than any other farmer in this vicinity; and I have fewer die now than before I commenced to Cook, four, or five years ago, although I keep three, or four times as many.' This is quite in accordance with what I should expect. Most of the swine diseases arise from indigestion. Clean and ventilated quarters, with regularity in feeding, giving no more than they will eat up clean, and then letting them have a comfortable bed, where they can lie down quietly and digest their food, and turn it into pork—these are the essential

conditions in feeding pigs profitably. And anything that will facilitate digestion will have a tendency to keep them healthy, and, provided they are of the *right sort* and have all the food they can digest, they will grow with great rapidity. I suppose Cooked grain is more easily digested than uncooked, and I regard this as the one great reason why it *pays to Cook grain for pigs*. It is no use wasting money in Cooking food for *ill-bred, slow-growing hogs*, that can digest food as fast, or faster than they can assimilate it—or, in other words, faster than they could convert it into pork."

Experiments like these are what settle the question. There is no doubt in my mind, nor ever has been, but what great advantage would be derived in Cooking Food for fattening Stock; but, on the other hand I have always felt satisfied that for *store Stock* the difference on the amount required to keep them thrifty, *does not pay for the labor of Cooking*. But where, like Mr. Bowles, you live so near to a market as to be able to turn off *the fat hogs* every 3 months, or as often as they become fat, it will undoubtedly pay to Cook Food all the time.

3. There is Great Economy also in fattening animals, in feeding them all they will consume; if 5 bus. of corn can be eaten in a month, it is *true Economy* to give it to him, rather than to be two months about it, for that necessary to sustain life for the extra month is saved, and is equal to clear profit.

4. *Cooking Potatoes for Swine*.—The following item from the *Hearth and Home*, is undoubtedly correct both as to *propriety* of Cooking Potatoes for Swine, and to the *impropriety* of planting "small Potatoes." It says:

"As the season for digging Potatoes is at hand, it is well to consider the most economical mode of dealing with the *small ones*. Often farmers are so mistaken as to save them for seed; but as the seed is, so will the crop be. *Plant small Potatoes*, and the *crop* will be 'small Potatoes.' Small Potatoes may be fed to hogs in such a manner as to return a fair value. But they must not be fed raw. The result of all the experiments we have heard, or read of, as well as of those made by ourselves, shows that Potatoes are much more profitable when Cooked than when fed raw. The extra labor and fuel are well paid for. A good plan is to boil them in a large iron kettle, set in an arch made of rough stone (which economizes fuel), and boil a few bushels at a time. When Cooked they are dipped out, with all the water, into a barrel, and a peck of corn-meal mixed with each bu. of Potatoes. The meal is thus thoroughly scalded. When the mess is cold, it may be fed. If two barrels are kept, one will be always cool, and will be somewhat fermented, while the other is preparing. We would not advise any warm feed to be given to hogs. It has generally resulted in producing a diseased state of the liver, and consequently unwholesome pork. Fermented Food, on the other hand, seems to be agreeable to them, and wholesome."

5. I think, Horace Greeley-like, that it is perfectly proper, here, to tell the people "what I know about farming," for I, too, know something "about farming." I have been raised on a "hardpan"-farm, in Western New York, where, if a man, in an early day, upon those hardpan-hills, raised sufficient corn to bread his family, and to give a *finishing touch* to the fattening of his family-pork, he done well.

My father's plan was as follows: As field-peas and pumpkins would do better there than even corn, he would plant plenty of the latter with his corn, and sow all of the former that would be necessary to help fatten his hogs, and for seed the next year.

The plan of feeding was this: As soon as the peas were "full," we boys took our scythes and cut, or rolled them up into heaps the size of a pitchfork full, and threw them to the hogs, in an adjoining pasture, all they would eat; and later in the season, as pumpkins ripened, carry out, and break up pumpkins for them also; and still later in the season, as peas and oats, which were always sowed with them, got ripe enough to grind, and Potatoes also got ripe, Potatoes and pumpkins were boiled together, and the peas and oats ground for the purpose of thickening the boiled Potato and pumpkin mixture to a good mush, which was fed to the hogs, all they would eat until within 2, or 3 weeks of "killing-time," when corn meal took the place of the other; and the consequence was, we always had good, and well-fattened pork, while many would content themselves with the lean pork of the "fence jumpers," which fifty years ago, in that region at least, was the "best breed of hogs." Where peas will do well, there is no better way to "start," and to keep hogs in a thriving condition. I might mention also, that the Potato raised there, at that time, for feeding purposes, was what was known as the "Long Red," or "Hog Potato." I have not seen them in the West, but they were a great producer, growing large, and long, and yielding well, and were a good Potato for Summer use, except an inch or two of the stem end, I believe, which would always be watery.

COOKING RICE.—It is so seldom that I have found Rice properly Cooked, that I will mention our way of doing it: After washing and soaking well, boil it until every grain is Cooked through and swelled to its biggest capacity, salt to taste, and set away in the cellar to cool. For supper, have a well sweetened, rich milk, or cream sauce, with a little nutmeg grated in, or lemon extract, as you choose. For the sick, or for children, there is nothing better, except it may be the following plan of:

COOKING THICKENED MILK.—Rub an egg, or 2, or 3, according to the size of the family, into sufficient flour to make a thick, lumpy mass, and drop this into boiling Milk, of the morning's Milk-ing to insure its freshness, and when properly Cooked, set it away to cool, and serve the same as the boiled rice. If there are any whose taste would not relish either of these dishes, they can either throw themselves, or the dishes, to the pigs. I think, however, that but few would complain of getting them too often. These dishes are very nearly allied to *hulled corn*, in Winter, both for taste and health.

1. CONSTIPATION.—A gentleman who has suffered much, for years, with Constipation, and who found it necessary to pay attention to her slightest indications for "a movement," lest the feeling should subside, and be forgotten, and thereby the difficulty be increased instead of being overcome, which it is by this attention, sends me the following hints and suggestions, in complete form, the remembrance of which will be easy and beneficial:

"When 'Dame Nature' asks an *exit*,
Make no effort to choke Her in;
Health and comfort, both, forbid it,
Hie away *then*, the work begin."

It is important also to take some opening medicine like the following:

2. Pill for Constipation.—Take the salvy extracts of jalap, colocynth, rhubarb, and Castile soap, of each, 1 dr., and ex. of hyosciamus, $\frac{1}{2}$ dr.; oil of anise, or carraway, 30 to 40 drops.

Make into 60 pills, and take 1 after dinner each day, until a daily movement is brought about, and if 1 pill does not accomplish in a week, or 10 days, take 2, until this is established, then 1 as often as needed, to keep it up, see also No. 9 and 10, under the head of CATHARTICS.

And when taking any opening medicine, the diet should be as much of a liquid, or loosening character, as the conveniences at hand will allow. A few figs, eaten daily, after meals, or with the meals, have overcome pretty obstinate cases.

COPPER WIRE—For Mending Harness, Trace Chains, Thills, etc.—Something to Mend with—that is the great need of us all, especially of those who live in the country, and whose traps are sometimes “rattle-traps,” and have a way of breaking at inconvenient times. An old officer of the Coast Survey, who had spent *thirty years* in field service, once told us that he never went from camp in the morning without having a spool of Copper Wire in his wagon, and that, as a consequence, he *never* had a breakdown that he could not repair on the road, or in the woods, or wherever he might be. Harness, wagons, tools, everything almost, that is subject to breakage, may be stoutly mended with Copper Wire, which is flexible and tough.

The best size for such use as we are now considering is the size of a rather large knitting-needle, of which a piece two yards long may be coiled up to about the size of a watch, so as to be carried in the pocket—the end being wound around the coil, to keep it in place. This will, then, always be at hand ready to mend a broken tool.

A longer piece of the same wire, tightly wound on a spool, or on a stick, may be always kept in the wagon to repair any damage to it, or to the Harness. Such a spool as carpenters use for a chalk-line will carry enough for any purpose. If the tongue of a buckle breaks, its place may be supplied by use of the wire. We recently broke the spring of a carriage, when far from home, and soon mended it, so that it was used safely until there was an opportunity to have it repaired, more than a week later.

We have sometimes, while plowing, mended a broken Trace-Chain in two minutes' time, saving a two hours' trip to the blacksmith to have an S-hook put in; and a broken whiffletree has been so bound as to be made strong enough for a season's work without leaving the field. In short, there is hardly anything that can be mended with a ring, or a rope that can not be *much better* done with Copper Wire; and no farmer who has once learned its utility, would willingly be without it.

If the supply is kept on a stick, or a spool, it should be wound on so evenly and tightly that it will lie perfectly solid, to allow a good strain to be given as it is wound around a broken spade-handle, or anything else that is to be mended. For this reason, the Wire as it comes from the store, should be fastened by an end to a nail in the fence, or otherwise, so that it can be drawn taut. One turn of the Wire near the fence should then be taken around a hammer handle,

or other smooth piece of hard wood, which being drawn back in such a way as to make the Wire slip tightly around it, will remove all kinks, and leave the Wire smooth and straight. By the same process, a Wire that has been once used can be again made smooth, to be wound on the *spool* for future use.—*American Agriculturist*.

1. **CORN—To Have the Earliest Ripening.**—A fact worthy of note to farmers in the Northern States, in the raising of Corn, has of late been fully demonstrated in the Corn-growing districts of the Western States, viz.: that seed taken from the *butt* end of the ear will ripen evenly and at least *three weeks* earlier than if taken from the top, or smaller end of the same ear.

I am sorry that the name of the paper that this was clipped from was not taken; for it is but proper that due credit should be given, as it also gives additional confidence. It is a *well* known fact, however, that an inch, or so should always be broken from the tip of an ear of Corn, for planting; and, I have no doubt that if 2, or 3 inches were broken from the top end, so much the better would it be; for the butt kernels obtain their supply first, and are more vigorous than those at the top end; and still another advantage may be gained by going through the field, before husking time, and selecting out the largest and earliest ripened ears, for, this is also *well* known to give considerable advantage in the early ripening of the next season's crop.

2. **Corn Hulling—Directions for Preparing.**—One of the luxuries of American life is Hulled Corn; yet, not one family in ten ever enjoy it. It is particularly acceptable in the Spring of the year, when old vegetables are on the decline, and new ones have not yet come into use. When the farmer burns wood, a white-ley may be made in a few minutes; or cobs may be burned and a ley made of the ashes, into which put the Corn to be Hulled, which should be large, white-flint, and let it remain until the Hull will slip easily, and then rinse it thoroughly in cold water, rubbing it with the hands till all the Hulls are washed off. Feed the Hulls and chits which come out, to the pigs, or hens, and *boil the Corn for yourself until it swells to three times its original size, and is as soft as bread*. You may prepare and boil a gallon at once for half a dozen, and what is not eaten at first may be warmed over just as you would potatoes. Those who have no wood ashes, or cobs to make weak ley of, may Hull Corn by using a table-spoonful of saleratus to a quart of Corn, in water enough to cover it. In either case the ley must be made hot after the Corn is put in to loosen the Hull, and if it is not carefully washed it will taste of the ley unpleasantly.

This is valuable, fried, having been cooked so soft that it may be made into balls, by the use of a little flour and an egg, or two, or the same as the Hominy below, which is only crushed, or broken Corn, and hence, very appropriately connected here.

3. **Fried Hominy.**—Take boiled Hominy, hot, or cold. If cold, warm it; add a piece of butter, a little salt, half a pint of cream, or rich milk, and enough flour to stiffen it—one, or more eggs. Fry on a griddle, after cutting it in thin slices.

4. **Corn Raising—Salt as a Manure.**—I will now close the Corn subject by quoting the *American Agriculturist's* report of the discussion, in the New York Farmers' Club, upon the use of Salt in the cultivation of Corn, and other plants, in the following words:

"J. B., Spring Mills, N. Y., wrote telling how a large crop of Corn

was raised: 'The ground, sand, gravel, and loam, first had 30 loads of Manure to the acre. Then was plowed 8, or 10 inches deep, thoroughly pulverized, then planted with the rows each way, spitting the hills with the hoe as planted; then, as soon as possible after the planting was done, he applied a composition of *Salt, gypsum, and ashes*, thoroughly mixed together at the rate of 1 bu. of Salt, 2 bus. of gypsum, and 4 bus. of leached ashes, to *two* acres. Two rows left without any of this composition were cut up, shocked, and husked, as were the 2 adjoining rows by themselves, and both weighed. The result was 38 per cent gain by the use of the composition, and the increase in fodder was worth enough to more than pay cost.' Mr. Reade—On sandy soil, I think, within 5 years, Salt will be used more extensively than any other fertilizer. Salt is very good when used with plaster and lime. Mr. Whitney—When salt is applied to sandy land, it decomposes, and forms hydrochloric acid, which dissolves the silica of the soil, and prepares it for absorption by the plant. This silica gives stiffness and gloss to the stalk, and also forms an essential part of the kernel. In England, Salt is used as a Manure for mangel wurzel, at the rate of from 300 to 500 lbs. to the acre. The smaller quantity generally produces the best results. It is a valuable top-dressing for rich lands where the grass grows rank. No reliance is to be placed upon its use for cereals," (meaning here wheat, rye, etc), "or upon a stiff clay soil. It would be well for farmers to try experiments with Salt mixed with ashes, lime, plaster, barn-yard Manure, and cubic nitre.* Mr. Williams—The Pennsylvania fruit-growers seem to think that the use of Salt in nurseries keeps the trees in a healthy condition, and prevents blight.

5. "Action of Salt in Plants.—Mr. Whitney also said: 'There is no doubt that Salt dissolves many other matters besides silica, and helps to carry them into the circulation of Plants with more readiness than the organic solutions commonly present in the soil. Salt differs from ammonia, potash, and other constituents of Plant-nutrition, in this, that whereas ammonia, potash, etc., are assimilated and combined to form new vegetable matter, the Salt in solution often circulates through the Plant without being assimilated at all, and can be obtained by proper analysis as pure as when it was applied to the ground, having undergone no change whatever.'"

6. Another New York farmer was in the habit, for a long time of applying Salt to his wheat land at the rate of 280 to 300 lbs. per acre. He found it had a tendency to cause the crop to mature earlier, gave a brighter straw, more plump and heavy grain, and of course, a larger yield. He thought 400 lbs. might be applied to the acre with greater advantage. He sowed his wheat in September and the Salt immediately after the wheat, but said: "Were I to be guided by theory alone, I would say, sow before the wheat and harrow in with it."

For other crops, Salt may be sown after the ground is broken up and just preceding the sowing, or planting of the crop.

1. CORNS—Sir Humphrey Davy's Cure.—Potash, 2 parts; salt of lemon, sometimes called salt of sorrel, 1 part; each in fine powder. Mix and lay a small proportion on the Corn, for 4, or 5 nights, binding on with a rag.

2. Another.—Take sheep-sorrel, mash, press out the juice, and

* Cubic Nitre is the nitrate of soda, found native in Peru and Chili, hence known also as Chili saltpeter.—Webster.

dry it on a plate, in the sun, or stove, to a thick salve; then put a very little pulverized potash in it, and bind a *very little* of the mixture upon the Corn, with a bit of cloth, 2, or 3 nights, or as long as may be necessary, till the Corn turns black, showing that it is killed; then leave it to come out of itself. If too much is put on it will make a sore. Should there be so much used in any case, as to cause pain, to any considerable extent, lessen the amount. When the Corn is killed, leave off the salve, and also leave off "tight boots."

3. Corns—Removal and Cure.—Probably there is no little thing which causes many people as much annoyance, and in some cases actual pain, as Corns upon the toes, or bottom of the foot. The following sensible Cure is given by the *Edinburgh Medical Journal*. It says:

"Hard Corns may be carefully picked out by the aid of a small, sharp-pointed scalpel, or tenotomy knife" (a knife used to cut tendons with, but any good knife will do), "and if well done, the Cure is often radical, always perfect for the time. But they may be as successfully removed by wearing over them for a few days a small plaster made by melting a piece of stick diachylon" (*emplastrum plumbi*—lead plaster), "and dropping it on a piece of white silk. The Corn gradually loosens from the subjacent healthy skin, and can be readily pulled, or picked out. Soft Corns require the use of astringents, such as alum dissolved in white of egg, or the careful application of tincture of iodine. *Prevention*, however, is in regard to them better than Cure, and can be readily attained by daily friction with cold water between the toes."

And I would add, by wearing boots, or shoes that do not give any unnecessary pressure.

1. COSMETICS—Their Uses and Manufacture—Embracing Pearl Powders, Rouges, Milks and Emulsions, Pomades, Hair-Dyes, Depilatories for Removing Superfluous Hair, Tooth-Powders, Toilet Soaps, etc.—Hunt's *Merchant's Magazine* first published the facts contained in the following essay on Cosmetics, but it was very long in its historical part, so much so that the *Scientific American* condensed all the *practical* facts in the case, and gives them to us in the following plain and practical form, the italics, however, are my own, that the *masses* of the people may at "a glance," see the points aimed at:

"Under the title of Cosmetics, may be comprehended all substances, or preparations for the purpose of *preserving*, or *restoring* beauty. Their purpose is to change the appearance of the *skin*, the *hair*, and the *teeth*. A countless number of preparations are used, yet, they are *mostly* mixtures of a comparatively *small number* of *substances*.

"Cosmetics were used by the daughters of ancient Juda, and the classical dames of Greece and Rome, and now by the fair-sex generally. The preparation of Cosmetics was, at one time, a *secret art*, of high repute, and some kinds were sold at almost fabulous prices. The preparation *le blanc de perles*, *l'huile de perles*, made in France, in the last century, were asserted to be formed by reducing *pearls* to powder in the *first* case, and *dissolving* them in vinegar in the *second*. These preparations were said to possess most marvelous properties in the restoration of youth and beauty, while from their great costliness they were almost exclusively limited to the toilet of the royal household. But ere long it came to pass that these royal preparations had many

counterfeits. The 'pearl powders' of modern Cosmeticists" (manufacturers of Cosmetics), "generally consist of *white oxide of bismuth*, or equal parts of this substance with common *chalk* and *oxide of zinc*. *Le blanc de perles* has, indeed, long since, ceased to indicate the origin of the substance so called. And '*le blanc de Troyes*,' '*le blanc de Mendon*,' '*le blanc de espagne*,' etc., now like *le blanc de perles*, etc., only indicate *des blancs*, that is to say *white* Cosmetics—substances and compounds of very different properties.

"As nothing is more flattering than the art of preserving beauty and adorning the exterior of our persons, it is not surprising that the use of Cosmetics is one of the most universal practices of civilized nations. Indeed, nearly allied to the use of Cosmetics, among civilized communities, are the practices of uncivilized people, in scarifying and grotesquely painting their countenances for the same purpose" (improving their appearance, although to us, they look more horrid, instead of being improved).

"Perfumery, too, enters into the category, for the same sense of *smell* seeks gratification scarcely less than the sense of *sight*. Although they may, for a time, soften the *skin*, give gloss to the *hair*, and tint to the *cheek* and the *lip*, the time is but hastened when the *lily* and the *rose*

"Give place to a *lead*en hue,
And the *lips* of *carmine*, to a *livid blue*."

"Many tons weight of Cosmetics, in the form of toilet powders, are, doubtless, used annually in this country alone. These are generally composed of various *starches*, prepared from *wheat*, *rice*, *arrow-root*, and various *nuts* mixed with different proportions of *talc*" (a soft magnesian mineral, having a soapy feel), "*oxide of bismuth*, and *oxide of zinc*, scented with various aromatics.

2. "**Pearl Powder**, according to the common acceptation of the term, consists of *equal parts* of *oxide of bismuth*, and *oxide of zinc*, with *16 parts* of *French chalk*.

3. "**French Blanc** is levigated" (ground to the finest powder), "*talc* passed through a *silk sieve*. This, when well prepared, is probably, the best *face powder* made, in as much as it does not discolor from cutaneous exhalation, or from an impure atmosphere. *Calcined talc*" (*talc* reduced to the finest powder by heat and pulverization), "is also extensively used under various names, and is unobjectionable; but it is less unctious" (oily) "to the feel, and more likely to be seen than genuine *French blanc*."

4. "**Rouges** are usually made by mixing *coloring matter* with either of the above named powders. The finest kinds are made by mixing *carmine* and *French Blanc*, in different proportions, say, *carmine one part*, to *Blanc eight to twenty parts*, as you choose, in order to produce different shades of color, for different complexions. *Rouges* are sold in the form of powder, cake, and paste, or pomade. Common pink saucers are made by washing *safflower*" (*Carthamus tinctorius*); "in water, until the coloring matter is removed, and then dissolving out the *carthamine*" (coloring principle), "by a weak solution of *carbonate of soda*" (sal-soda purified). "The *coloring* is then *precipitated* into the saucers by the addition of *sulphuric acid* to the solution. They are applied to the cheeks with a bit of wool. *Spanish wool*, and *Crépon Rouge* are made by the same process. Preparations containing *lead* are very dangerous" (they should never be used).

"In France, where the conservators of public health constitute an intelligent portion of every municipality, prosecutions for selling fatally deleterious Cosmetics are common. And it has been clearly proven by some of the most scientific men of France, that the health and lives of many distinguished artistes" (opera-dancers) "and women of fashion have been sacrificed by the use of poisonous Cosmetics.

5. "**Milks and Emulsions** are nearly allied to paints. Many seeds and nuts, when divested of their outside covering, reduced to a pulpy mass being thoroughly rubbed up with water, may be made to resemble milk. This appearance is due to the minute mechanical division of the oil of the nuts thus treated. But all such substances are exceedingly liable to decomposition" (spoiling), "and unless 'fixed' by the addition of other matter, they quickly spoil. They can generally be fixed for a short time, by the addition of a small portion of *alcohol* and *aromatic oils*; and these additions, if well proportioned, may serve to render such compounds, desirable and innocent Cosmetics.

6. "**Pomades** frequently contain the *acetate* and *carbonate* of *lead*, *corrosive sublimate*, and *cinnabar*; in which cases they possess injurious qualities" (use only such, then, as you know to be without them—in other words, follow our Receipts).

7. "**Hair-Dyes and Depilatories**, as a class of Cosmetics, are perhaps, far more ancient and extensive than that of any other. A recent traveler states that, among other curiosities found in the Egyptian tombs of Sahara, was a piece of a reed containing a quantity of powder such as is used even at this day by the Egyptian women to *color the eyelashes*. It is supposed to be the same custom as that referred to by the Prophet Jeremiah, when he writes that, 'Though thou rendest thy face' (or thine eyes) "'with painting, in vain shalt thou make thyself fair'" (Jer. v. 30). "In Constantinople certain Armenians devote themselves to the preparation of Cosmetics, and among the most celebrated of these is a black Dye for the Hair. The preparation of this Dye, however, is kept secret. It is in the form of a paste, and is applied by rubbing it on the Hair, or beard, with the hands. After a few days the hair assumes a beautiful glossy black.

"Most of the lotions and perfumes prepared by apothecaries and Hair-dressers in this country, as in France, consist, in compounds holding in solution different proportions of *litharge*" (litharge is the protoxide of lead, and consequently dangerous in Hair preparations), "*lime*, and *nitrate of silver*. Some of the most popular of the French Dyes are sold under such names as *l' Eau de Perse*, *l' Eau d' Egypte*, *l' Eau de Chypre*, *l' Eau de Chene*, etc. They contain from one-eleventh, to one-seventh per cent of *sulphuret of potassium*, *nitrate of silver*, or *quick lime* with minute proportions of *oxide of lead* and *carbonate of iron*. What is sold by our own apothecaries as 'vegetable Dye' consists of *nitrate of silver*, 1 oz. to *rose-water*, 1 pt. put up in colored bottles" (as *light* decomposes, or metalizes the silver, colored glass keeps out the light. It will do just as well in a dark place, and common soft water, except for flavor, is as good as *rose-water*). "The directions for the use of this Hair-Dye are, *first* to free the Hair from grease by washing it with *pearlash-water*, or *soda-water*" (not the drinking soda—weak sal-soda water is the kind), "and after the Hair is perfectly dry, apply the Dye by means of a *brush*. It does not 'stick,' or 'set,' for several hours, but may be hastened by expo-

sure to sun-shine" (I have known a lady to use this, then take a walk in the garden, bareheaded, to 'set' it). "Other preparations are accompanied with a mordant" ('setter'), "which usually consists of a strong solution of *sulphuret of potassium*; still others with *ammonia*, this substance being added to correct the, otherwise, bad odor of the sulphuret of potassium; it is commonly called 'inodorous dye.' (See HAIR-DYE, IN THREE NUMBERS). "French 'Brown Dye' is composed of *sulphate of copper*" (blue vitriol), "*ammonia*, and *Prussiate of potassia*; this is exceedingly poisonous, but is said to be a very fine Dye.

8. "Depilatories are substances used to remove superfluous hairs from the surface. Ladies generally consider the growth of hair on the face, arms, and neck, as prejudicial to beauty. Depilatories are always composed of strong alkalies, and usually those which are the most injurious, *sulphates of arsenic and lime*. *Le Russina des orientaux*, which is one of the most esteemed of preparations, consists of a solution of *quicklime*" (by quicklime, it is generally understood lime recently burned, but any lime which has not lost its causticity, by exposure to air, is *quicklime*) "*and orpiment*" (sulphuret of arsenic), "and a test of its good quality, when prepared, is, that it will remove the barbs of a feather. It is, indeed, a powerful caustic, and its use requires great care. An analogous" (like) "preparation is generally kept by our apothecaries, and is in common use by Hair-dressers. The formula" (Receipt) "for its preparation is:

"Best lime, slacked, 3 lbs.; orpiment, $\frac{1}{2}$ lb." (the same proportion would be best lime, 3 drs.; orpiment, $\frac{1}{2}$ dr.).

"Mix by means of a drum sieve" (sieve that shuts up). "Preserve the same for sale in well corked bottles.

"DIRECTIONS FOR USE. Mix with a sufficient quantity of water to render it of a creamy consistence, lay it over the Hairs to be removed, for a few minutes, or until the smarting renders it necessary to remove it."

(Where too much irritation is caused, in any case, treat it the same as for burns.)

9. "Tooth Powders.—Soaps and washes, when properly made, greatly assist in preserving a healthy condition of the teeth, and therefore, contribute to the act of the mastication" (chewing), "and so promote healthy digestion. The ill-effects resulting from the accumulation of 'tartar' on the teeth, is well known to most persons, and in certain conditions of the system, the secretions of the mouth are also well known to exercise an injurious effect upon the teeth. The daily employment of a cleansing dentrifice will not only remove the oftentimes injurious remains of food, but will also generally prevent the accumulation of tartar, or other injurious secretions." See TOOTH POWDERS.

10. "Cosmetic Soaps, are usually made by remelting the common white, curd Soap" (curd Soap is made of pure tallow and caustic soda) "of commerce, and mixing, with it, aromatic and coloring substances, according to the quality required. The favorite variety of toilet Soap, supposed, by some, to be made of the oil of sweet almonds, and therefore, called almond soap, is generally made according to the following formula:

"Finest curd soap, 100 lbs.; finest oil soap, 14 lbs.; finest marine soap, 14 lbs.; otto of almonds, $\frac{1}{2}$ lbs.; otto of cloves, $\frac{1}{2}$ lb.; otto of caraway, $\frac{1}{2}$ lb. First melt one-half of the curd soap, and then add the marine; when this is well 'crutched,' (stirred in), "add the oil soap,

and finish with the remaining curd. When the whole is well melted and thoroughly mixed, add the perfumes, quickly mix them, and turn into the molds. The finer qualities of scented soap are made by adding the perfume after the melted soap has become nearly cold. Honey soap is made of yellow soap and fig soft soap, scented with the otto of citronella. It contains no honey" (some does).

"Finally in the choice of Cosmetics, of whichever class, those known not to be injurious should always be chosen, in preference to those not known, or of doubtful qualities, however agreeable to the senses. *And it should constantly be borne in mind, that whatever is a foe to health, is an enemy to beauty.*"

The following Cosmetics will be found valuable for the skin, breath, etc.:

11. Milk of Wax for the Skin.—There are quite a proportion of the ladies who have a very thin and active Skin, i. e., the blood circulates in the Skin freely; and as the common yellow soaps contain a large amount of alkali, they irritate these delicately organized surfaces, especially the face, so much so that a very unpleasant roughness is almost always present. Persons of this class will find a great satisfaction in the use of the following combination, instead of the common soaps, for toilet purposes:

Pure white wax, oil of sweet almonds, spermaceti, and any nice white bar soap, of each, $\frac{1}{2}$ oz.; rose-water $1\frac{1}{2}$ pts.; and ess. of lavender, 6 ozs. If any one should prefer the flavor of camphor to that of lavender, they can substitute camphor spirits for the ess. of lavender.

Shave the soap fine and put it into a suitable dish, to set inside of a pan of hot water, and put about $\frac{1}{2}$ pt. of the rose-water with the soap, and set it where the heat shall dissolve the soap; then add the oil, wax, and spermaceti, stirring well; then as soon as the wax melts, add the balance of the rose-water, a little at a time, and last, the lavender, or camphor, whichever flavor suits you best; or alcohol may be used, if no perfume at all, is desired.

12. Milk of Almonds for the Complexion.—A very nice Cosmetic is prepared with

Sweet almond meats, or pits, $\frac{1}{2}$ lb.; nice white, or curd soap, $\frac{1}{2}$ oz.; rose-water, 1 qt.

Pour boiling water over the almond meats, for 3, or 4 minutes; then pour off and put on cold water for a minute, or two; then pour off again, and, with the fingers slip off the skin of all the meats; now rub them, and the soaps in a mortar, or bowl to a fine pulp for 10, or 15 minutes; then begin to add the rose-water, and rub to a milky appearance; then strain and bottle for use. To be applied after washing by means of a towel, or cloth.

13. Perfumed Breath.—There are those who, from indigestion, or some other disease, have an unpleasant breath; this can easily be remedied, for especial occasions, nothing will entirely cure, except to cure the disease, by chewing a little orris-root, cloves, (cloves, however, are so much used to cure a whisky breath, their use might lead to a suspicion of your use of that article,) cinnamon, or orange peel, or the following tincture:

Alcohol, 1 gill; and cloves, nutmeg, cinnamon, caraway seeds, orris-root, and orange peel, of each, 1 dr.; all to be bruised and put into a $\frac{1}{2}$ pt. bottle with the alcohol, and corked; then shake it night

and morning, for a week, or 10 days—strain and press out; then add lavender and otto of rose, of each, 5 drops.

A few drops of this on sugar and eaten, will make the breath very pleasant for some considerable time. A few drops of it upon the handkerchief would not be a bad perfume, especially if the lavender and rose were increased one-half.

Notwithstanding that **HAIR-DYES, HAIR-OILS, HAIR-RESTORATIVES, ETC.**, really belong, as a *class*, to Cosmetics, and therefore, might be given here, in this connection, yet, others will be found under their proper heads, which see. Freckles, however, have so much more of an intimate relation with the Complexion, I will give them in this connection.

14. **Freckles—To Remove.**—1.—Rose-water, 1 pt.; alum, pulverized, and lemon-juice, of each, 1 oz. Apply at night.

15. 2.—Tinct. of benzoin, 4 ozs.; tinct. of Tolu, 2 ozs.; oil rose-mary, 1 dr. Put 1 tea-spoonful of this mixture to rose-water, 4 ozs.

16. 3.—Flake-white, 2 ozs.; bay-rum, and rain water, of each, $\frac{1}{2}$ pt.; glycerine, and vinegar of rouge, of each, $\frac{1}{2}$ oz.; oil of bergamot, $\frac{1}{4}$ dr. Heat the water hot, and put in the flake-white, and stir until dissolved, and add the other articles.

A bit of sponge is the proper thing to apply either of the Freckle lotions with, on retiring at night. Shake this latter one well, when using.

It is not to be presumed in all cases, that Freckles can absolutely be removed. They may, however, in many cases, be permanently improved by the first one, and in cases where Freckles are many in number, and deep in shade, the last will help to cover them so they shall not attract particular attention—the second is a valuable perfume.

COUGHS—In Recent Colds—Immediate Relief—Cough Sirups, Balsams, Lozenges, Tinctures, etc.—Probably there is no disease, or perhaps it would be better to say, no disturbance of the regular functions, or actions of the human system arising so often, or that so much *effect* the health as that of Colds, by which an inflammation, either slight, or more severe, is set up in the throat, or bronchial tubes to a greater or less degree; and that degree is determined very much by the treatment, or by an entire neglect of treatment, more than most people are aware of; hence, almost *every one* has a remedy. This may account for the number of preparations that will be found in this connection. Every person must determine for themselves, from the nature of the articles used, as well as by the articles on hand, or handily obtained, as to which of the remedies they will resort to in any case that may arise with them. With this explanation I will remark, that for a Cough arising from a recent Cold, when the Cough is constant, from a tickling sensation in the throat, on myself, or children, I have found the first preparation to be a quick and absolute relief.

1. **Cough Mixture.**—Take the white of an egg and beat it well; then make it pretty thick with fine white sugar.

Dose.—A tea-spoonful, or 2, according to the age of the child, and the severity of the Cough. Children take it readily, and it relieves the Cough immediately. I have found it as effectual with grown persons as with children. Keep it covered up, as it dries up, or hardens pretty quickly upon the tea-cup unless covered from the air. When

any one has a Cold, they are liable to wake up in the night and Cough. At such times, give a tea-spoonful, or 2, of the medicine, and they will soon fall asleep again, at least I have not yet known a failure.

The philosophy of it is, the albumen of the egg covers the mucus membrane of the throat from the irritation of the air, and relieves the Cough, thereby.

2. Cough Drops.—Alcohol, 1 oz.; oils of anise and almonds, balsams of Tolu* and fir, of each, 1 dr. Mix.

Dose.—From 10 to 30 drops for a child, according to age; and from 30 drops to a tea-spoonful for an adult, to be taken in a little sweetened water, or mucilage of flax-seed, or slippery-elm; or in the egg mixture, No. 1, as preferred. Assists expectoration and allays tickling irritation.

3. Cough Sirup, with Honey.—Nice, clear honey, olive-oil, lemon-juice, and sweet spirits of niter, of each, 1 oz., fl. measure. Mix.

Dose.—In fevers and inflammations, in doses from half to 1 tea-spoonful, whenever the Cough is troublesome, will be found a very excellent Sirup.

The plan of using a tea made with the Honey-bee, originated with the Indians. They use a gill of the strong infusion every half hour in strangury (where the urine is made, drop by drop, only), and when it is entirely suppressed, or stopped. The infusion is made by steeping 20 to 30 bees in water, 1 pt.

4. Another.—The following Cough Sirup, from a lady correspondent of the *Germantown* (Pa.) *Telegraph*, which, she says, she has "tried many times, with success." It will be found soothing, and, undoubtedly relieve Coughs from recent Colds, very quickly:

"This excellent remedy for a Cough is made thus: Boil 1 oz. of flax-seed in 1 qt. of water for $\frac{1}{2}$ an hour; strain and add to the liquid the juice of 2 lemons, and $\frac{1}{2}$ lb. of rock candy. If the Cough is accompanied by weakness and a loss of appetite, add $\frac{1}{2}$ oz. of powdered gum Arabic. Set this to simmer for $\frac{1}{2}$ hour, stirring it occasionally. Take a wine-glassful when the Cough is troublesome.

5. Tar Sirup for the Lungs, Coughs, etc.—Take a tea-cupful of common Tar, such as the farmers use for their wagons, and loaf sugar, 2 lbs.; water, 1 qt.

Put them into a tin dish and see that the sugar is dissolved; then boil 2 hours, and remove from the stove and let it stand until cold, without stirring, then pour off the Sirup.

The lady friend who sent me this, for the New Book, says, "it is excellent for a Cough of any kind, and pleasant to take." I know that Tar has been highly recommended for Lung difficulties, and I should prefer this to the Tar preparations kept on sale. The same lady sends the following:

6. Whooping Cough Sirup.—Take nice blood-beets, wash and slice thin, placing a layer of them in a tin basin, and sprinkle *thickly*

*Balsam of Tolu, is a South American production, coming from the province of Tolu, in Colombia, but there is still doubt as to whether, or not, it is from the same tree that furnishes the Balsam of Peru—either, are stimulant, tonic, and expectorant, but from its more agreeable flavor, it is preferred to that of Peru, in Cough preparations. King says that this Balsam dissolved in ether, and the vapor of it inhaled, is reputed beneficial in Coughs and bronchial affections of long standing. He says, also, that 2 parts of Balsam of Tolu, 8 of almond-oil, 4 of gum Arabic, and 16 of rose-water, make an excellent liniment for sore, or irritable nipples.

with brown sugar, filling the basin with alternate layers of beets and brown sugar. Set in an oven and let it cook slowly, until the coloring matter of the beets is extracted; then pour off the Sirup.

Dose.—A table-spoonful, 3, or 4 times daily. This, she adds, "Is good also, for I have tried them." Such Receipts, coming from ladies who are raising families of children, who know of what they speak, I put very much confidence in, especially so, when I have known them, as in this case, for many years.

7. Another Whooping Cough Sirup.—Tamarack balsam, 1 tea-spoonful; honey, 1 lb.; nice butter, $\frac{1}{2}$ lb. Melt the butter and use sufficient heat to melt the balsam in the butter, then add the honey, thoroughly mix.

Dose.—For a child of 2 to 3 years old, $\frac{1}{2}$ tea-spoonful; and for any one older, 1 tea-spoonful, 3 to 5 times daily, according to the severity of the Cough. This is from a near neighbor, who has given much attention to doctoring his own family, as well as his neighbors; and to horses also, and he recommends this very highly, having used it many times.

8. Morris's Cough Balsam.—Press into a bowl, lemon-juice, $\frac{1}{2}$ pt. and wash 3 fresh eggs and put them into the lemon-juice, without breaking, for 24 hours; then beat all well together, strain into a bottle and add strained honey and best rye whisky, of each, $\frac{1}{2}$ pt., and balsam of fir, $\frac{1}{2}$ oz.

Dose.—A tea-spoonful, 3, or 4 times daily. This is recommended very highly by a neighbor and friend. It does not differ much from the following, except in the absence of the lemon juice:

9. Brown's Cough Balsam.—Jamaca rum, $\frac{1}{2}$ pt.; candied honey that is grained like sugar, 1 lb.; Turlington's Balsam of Life,* 3 ozs. Put into a bottle and shake until all is dissolved.

Dose.—One tea-spoonful, before breakfast and dinner, and on retiring at night. This has been used successfully, over forty years, in Coughs, consumption, whooping Coughs, etc., by C. J. Brown, of Monroe, Mich. He obtained it of the surgeon, Dr. Hugh Caldwell, of Montreal Hospital, who Mr. B. says used more than 500 bottles of it in one year.

Mr. Brown related to me several cases of cure of Cough, with this Balsam, one especially, of a young lady, who was very low; her friends considering her case to be consumption, and very doubtful if anything could ever help her; but, if I mistake not, as it was about a year ago that he told me of the circumstance, and gave me the

* "Turlington's Balsam, a well known remedy," says King, in his American Dispensatory, eighth edition, 1871, page 1216, "is composed of Benzoin, *six ounces*; Liquid Storax, *two ounces*; Socotorine Aloes, *half an ounce*; Peruvian Balsam, *one ounce*; Myrrh, *half an ounce*; Angelica-Root, *two drachms*; Balsam of Tolu, *two ounces*; Extract of Liquorice, *two ounces*; Alcohol, *four pints*. Mix, digest for ten days, and strain.—*Journal of Philadelphia, College of Pharmacy*, V., 23," (meaning volume and page). To which he adds: "It is an improper application to fresh wounds." I have spelled out the amounts of the articles here, and capitalized and italicized also in the same manner that is followed in the Dispensatory, which will show how much more matter can be put in by using figures as I do. This Balsam may be used as an expectorant in old Coughs and Catarrhs, and as a stimulating application to old obstinate ulcers. To "digest" means to keep gently warm—to dissolve by heat. All the articles pulverizable, should be finely pulverized before adding to the alcohol; and the heat should not be so great as to cause the cork to fly out of the bottle, as then the alcohol would evaporate. Turlington's Balsam must not be mistaken for the Compound Tincture of Benzoin, sometimes called *Frier's Balsam*, which has some articles in common with Turlington's, but still is very dissimilar—that is recommended for fresh wounds,—this is not.

Receipt, taking *one* prescription only, in the amount above given, entirely cured her, to the very great astonishment of her friends.

10. **Another Cough Balsam.**—Whisky, 1 qt.; pulverized sugar, 2 lbs.; laudanum, tincture of lobelia, and strong spirits of camphor, of each, 1 oz.

Place the whisky and sugar in a jug, or suitable sized bottle, then put the bottle in a kettle of cold water and boil the water for 1 hour, shaking well when put together, and once, or twice while boiling; then take out the bottle, and while cool, add the other articles.

Dose.—A table-spoonful 3, or 4 times daily. The gentleman who sent me this for insertion in this Work, said it had cured even consumption, after all other remedies had failed. It will prove a valuable Balsam for Coughs.

11. **Cough Lozenges.**—Best quill, or refined liquorice, 6 drs.; benzoic acid,* 2 drs.; pulverized alum, 4 drs.; pulverized opium, $\frac{1}{2}$ dr.; oil of anise, 10 drops.

Dissolve the liquorice in water and evaporate to a proper thickness; then stir in the powder and oil, and divide into 5 gr. Lozenges.

Dose.—In ordinary Cough, use 1, by putting in the mouth, to dissolve at leisure. Will be found very satisfactory.

12. **Cough and Sore Lungs—A Remedy.**—To 1 qt. of water, add 1 large handful of strong hops. Let the water boil till reduced to 1 pt.; then thoroughly strain the water from the hops; rinse out the kettle with warm water; replace the hop water, or tea, in the kettle; carefully stir in 1 lb. of *heavy* brown sugar, and bring to a simmering heat; then remove from the fire and add $\frac{1}{2}$ pt., (or a pint will do no harm) of the best *Jamaca* rum. When cold 'tis fit for use. One, or 2 tea-spoonfuls is a dose. Take as often as you require it. It is the best preparation for Lung difficulties I have ever used.

J. M. PERKINS.

ANN ARBOR, November 2, 1871.

Thus I close the subject of Cough and Lung Remedies; and I feel constrained to say that I do not believe that I have ever seen a collection to compare at all favorably with these—they are *reliable*, because upon *common-sense principles*, i. e., contain no hurtful, or injurious drugs.

CRACKED WHEAT AND OAT GRITS—Valuable Articles of Diet.—Cracked Wheat and Oatmeal, or Grits, as sometimes called, are among the best of articles of Diet. Why do we see them so seldom upon the breakfast or supper table? Perhaps it is because they are so cheap. If they were expensive, we should all find out that they were a luxury. These substances contain plenty of gluten,

* Benzoic Acid is prepared from Benzoin, which is a balsamic resin, or resin, as some call it, which exudes from the Benzoin, or Benjamin Tree, of the Island of Sumatra. The Acid is stimulant to mucus surfaces; hence, used in Coughs, and Catarrhs, or Colds "affecting the head," as it is called; and the Alum, although in large doses, it is cathartic in its action, yet, in small doses it restrains immoderate secretions, that often arise in Colds. In speaking of Alum, Prof. King says: "I have found much advantage from the use of the following preparation in *troublesome Coughs*, especially when attended with *tickling*, or *irritation* of the fauces, larynx, etc.: Take of a saturated solution of Alum" (water made as strong with Alum, as it will dissolve) "syrup of balsam of Tolu, of each, 2 fluid ozs.; camphorated tincture of opium" (paregoric), "1 fluid oz. The dose for an adult is a table-spoonful 3, or 4 times a day, or whenever the Cough is very troublesome. Several practitioners to whom I have recommended the preparation, have found it *very efficacious*."

oils, and phosphorus; they are very nourishing, both for children and adults; and when properly boiled, with the addition of salt, and eaten with sugar and cream, or milk, they are also delicious. Mary, bring on the Oatmeal and Cracked Wheat.—*Hearth and Home*.

I can fully endorse the call, for Mary, or rather, Katy, to "bring on the Oatmeal, or Cracked Wheat," because I know they are both palatable and healthy, beyond the general appreciation of the people—"sugar and cream" for me, with them.

CRANBERRY SAUCE AND JELLY.—The domestic growing of Cranberries has become one of the most advantageous crops of the farm. The *Tribune*, in times past, has printed long essays upon this subject. Cranberries are sour, acrid, unpalatable and unwholesome, in a raw state, and but little better as they are usually cooked. We have often seen them hastily scalded, sweetened, and brought to the table floating in their juice, not one-half of them cooked enough to burst the skin. Bah! what food! But how different when properly cooked. Put them, with only water enough to prevent burning, in a tinned sauce-pan, and stew until by stirring, the whole becomes a homogeneous mass, with no semblance of whole berries, and then add clarified sirup, previously prepared, and stir, while boiling a few minutes. When cold, you have delicious Cranberry Jelly.—*N. Y. Tribune*.

1. CROUP—Paris Remedy.—At a meeting of the Paris Academy of Sciences the disease of Croup—so common among children—formed the subject of very important remarks. Dr. Jodin "stated that it was a parasitic affection" (a fungus-like growth), "and of all simple remedies, capable of removing these parasitical growths, the *perchloride of iron*, is, by far, the best. It penetrates through the fungus, modifies the hemorrhagic state" (tendency to bleed), "which always exists in the effected parts, and in their neighborhood; and, lastly obliges the patient to expectorate" (raise phlegm), "by which means the false membrane is expelled, and an immediate cure effected."

It may be proper to explain here, that although there is a tendency to bleeding of the throat in severe cases of Croup, it is, generally, only the *white* portions of the blood that escapes—not the red—which at once forms the coat on the inside of the throat, known by the name of "false membrane;" hence, in mild cases, where there is but slight inflammation, the tendency to hemorrhage does not set in, or, at least, in such considerable amount as to form the membranous coat.

DOSE.—The proper Dose of this perchloride of iron, for children would be from 1 to 3 drops in water, according to the age and strength of the child; an adult, might take 5 to 10 drops, in Croup, or in hemorrhages, and repeat in 2 to 3, or 4 hours.

It is a very valuable article in HEMORRHAGE, or direct bleedings, as a *STYPTIC*, which see.

2. Simple, but Effectual Remedies.—Professor Gunn, of Bennett Medical College of Chicago, in editorial charge also of the Medical Department of the *Western Home*, a journal of that city, says of Croup:

"In this disease, so common among children, and occurring so frequently when a medical attendant can not be had, we have found the following to have the most marked effect in relieving the distress in the common form of the disease:

"Oil of wintergreen, 10 drops; oil of lobelia, 10 drops; dilute alcohol, 1 oz. These ingredients to be mixed, and from 1 to 10 drops given every 15, or 20 minutes, until the paroxysm passes off, which it usually does in a very short time."

3. Simple Remedy for Croup.—A lady correspondent of the *Maine Farmer* says the following is an effective remedy for Croup: Half a tea-spoonful of pulverized *alum* in a little molasses. It is a simple remedy, one almost always at hand, and one dose seldom fails to give relief. If it should, repeat it after 1 hour.

4. Another.—A medical correspondent—a physician—of the *N. H. Journal of Medicine*, in speaking of the use of *alum*, in this disease, says: "I have used it about *three years*, giving about 10 grs. every 10 minutes. Using also tartar emetic, or hive-syrup, freely, until vomiting takes place. The latter, he claims, subdues the inflammation, and the *alum* acting as a *revulsive*, i. e., changing the action of the parts, or turning the action to other parts of the system, thereby relieving the throat."

5. Another.—The yolk of an egg, well beaten, and made thick with white sugar, has relieved the Croupiness, or hoarseness in this disease, very quickly, by removing the phlegm from the throat.

This can be got ready very quickly, and may be used freely, especially if medicines have to be sent for, after the attack; as very many people do not deem it of sufficient importance to be provided with such Remedies as they would prefer to use but have to go for them after they should have been administered. This allows a disease to get the *start*, and in too many cases, the *Doctor* can only catch up with the patient; and he—the patient—is soon laid away safely. Let all, who are raising a family of children, be provided for every possible emergency.

1. CURING HAMS.—The plan of Wm. H. Bennett, of Warwick, R. I., for several years, has been as follows:

"First take the cask in which the Hams are to be salted, and *smoke* it for $\frac{1}{2}$ an hour over a slow fire made of walnut chips" (I have no doubt 'walnut' means what, in the West, is called hickory, as in N. Y., and no doubt in New England, the two kinds of hickory are spoken of as the 'sweet walnut,' and 'bitter nut'). "Then make a pickle for 200 lbs. of Hams by dissolving 14 lbs. of Turk's Island salt, $\frac{1}{2}$ lb. of saltpeter, and 2 qts. of molasses in sufficient water to cover the Hams when placed in the barrel. This pickle is skimmed while the salt is being dissolved at a scalding heat. When cooled, this brine is poured upon the Hams, in the barrel, and they are allowed to lay in it until they are salted. They are then lifted out, hung up to dry, and afterwards rubbed over with a composition of fine salt, black, and red pepper, and some ground cloves. When this operation is performed, they are sewed up in bags, and hung up with shanks downward. A dry, cool attic chamber is the best place to keep them. Hams, thus preserved, have a very excellent flavor, and do not require to go through the *smoking process*."

To the above, the editors of the *Scientific American* who first published the Receipt, gave the following endorsement:

"The simple *smoking* of the cask will have the effect of communicating a mild smoky flavor to the meat.

"Of this we are confident, because we have seen it done, and can

endorse Mr. Bennett's experience in regard to this feature of the process. We believe his practice is a good one."

2. **Another.**—Two, or 3 years later, Jan. 6, '72, the *Scientific American* also published the following Receipt for Curing Hams, the editors stating also that they had "tried it, and knew it to be excellent:"

"To 1 gal. of water, take $1\frac{1}{2}$ lbs. of salt; $\frac{1}{2}$ lb. of sugar; $\frac{1}{2}$ oz. of saltpeter, $\frac{1}{2}$ oz. of potash.

"In this ratio, the pickle can be increased to any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold, pour it over your beef, or pork, to remain the usual time, say 4, or 5 weeks. The meat must be well covered with pickle, and should not be put down for at least 2 days after killing, during which time it should be slightly sprinkled with powdered saltpeter, which removes all the surface blood, etc., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well, though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar." See also, under the head of BACON, my plan of CURING HAMS, ETC.

CURRENT WORMS—To Kill.—Keep watch of the bushes and as soon as the worms are hatched out and begin their work of eating the leaves, dust the bushes thoroughly with powdered white hellebore, using for the purpose, a common flour dredging box, or a good sized pepper box. Once dredging will be sufficient for one set of worms. If others should appear, by the hatching of more eggs, repeat the operation any time during the season.

If the amount of bushes are not very extensive, it would be well to look for the eggs by taking hold of the top of the bush and pulling it over so as to see the underside of the leaves, where the eggs will be found; and pick off such leaves as have any eggs upon them, and burn them, or mash the eggs. In this way very many will be destroyed. Do this as soon as the leaves come out, and keep it up, from time to time, dusting the powdered hellebore over any that hatch out and come upon the top of the leaf. This is labor, to be sure, but it must be done so long as the Worm infests a neighborhood, if Currants are to be expected. It has been abundantly proven that the white hellebore dusted upon them will destroy them.

1. **CURCULIO ON PLUMS—A Prevention, also Preventives Against Frosts.**—The Curculio,* for several years past, has been very destructive to the Plum crop; and many plans have been tried to Prevent it. Among others, a correspondent of the *Scientific American*, says "he wraps Plum Trees below the lower limbs, with cotton, which he keeps wet with camphor and spirits of ammonia. He wets the cotton twice a week, and the result has been a good crop of Plums and no Curculio." A correspondent in another journal says:

"I have seen various methods for keeping these insects off Plum

*The *Curculio* which troubles the Plums is one of a numerous family of beetles, or weevils, which infest, or attacks corn, wheat rice, etc., as well as the Plum. They have a beak, or bill-shaped mouth, pointed, something like the bill of a bird, by means of which they often, almost entirely destroy whole fields of wheat, rice, etc. The technical, or Latin names of the different varieties, are as follows: The *Strophilus comotrachelus nenuphor* attacks the Plum; the *Strophilus oryza*, destroy rice, corn, etc., and the *Strophilus granata*, is the wheat wheevil.

20—DR. CHASE'S SECOND RECEIPT BOOK.

Trees, but none so simple or yet so effectual as the following: Soak corn cobs in sweetened water until thoroughly saturated, then suspend them to the limbs of the trees a little while after blossoming, being sure to burn the cobs after the fruit ripens, as they will be found full of the young insects. A good plan is to change the cobs every few weeks. My theory is this—that the insects deposit their eggs in the cobs in preference to doing so in the young Plums. The first season I tried it upon one, or two only, and in the Summer was rewarded by a good crop of as fine Plums as ever ripened, while those on the other trees fell off when about half grown. I have since tried it more thoroughly and have never known it to fail."

2. **Plums—To Save from Late Frost.**—A Methodist clergyman recently told me of a simple plan to save Plums from being destroyed by Late Frosts, as, for some reason they are more easily killed by Frosts than other fruit. He was taking tea with a friend, in a season when Plums had nearly all been killed by Frost, yet, this gentleman had plenty of this nice fruit upon his table, which lead to an inquiry as to his Plums not having been thus killed. The explanation was as simple as peculiar. He placed a tub of water upon opposite sides of the tree, upon the ground, and threw a small rope over the top of the tree, placing the ends of the rope in their appropriate tub of water, supposing at least that there was an electrical action thus established through the top of the tree. Whether this was the fact, or whether the absorption of the cold by the water, was not the reason of success, farther experiment, only, can decide; but that it was one, or the other, there is no doubt.

Throwing a sheet, or bed comforter, or spread, over the top of the tree, with a little stone weighted to each corner, to prevent the wind from blowing it off, would be equally effectual. This would prevent an upward ventilation, thus saving the fruit from Frost, no matter what the kind. For a few trees about the house, it would be but little trouble; but, for large orchards, the labor would be too considerable, probably, to be followed out, yet, its success, so far as followed, is a fixed fact.

1. **CUCUMBERS—Salting for Long Keeping and Pickling.**—Cucumbers for Pickling should not be permitted to grow only to moderate size, and should be cut off with a knife, leaving at least $\frac{1}{2}$ inch of stem; for if broken off, there is quite frequently a bit of the end torn from the Cucumber, causing decay, or softening to begin at that point. If there are any that are dirty, they may be taken separately, in the thumb and finger, and carried quickly through clean water to rinse off the dirt; but they should not be stirred, "hurly burly" in a tub of water, as more, or less bruising would be caused thereby, greatly endangering their keeping; it would be better, if large numbers need rinsing, to pour water over them, freely, in a basket. Then:

Put a layer of Salt $\frac{1}{4}$ to $\frac{1}{2}$ of an inch thick on the bottom of the barrel, or keg, as the case may be, then a layer of Cucumbers, and so on, alternating, Salt and Cucumbers, *but no water*; and when the morning cutting has all been put in, lay a cloth over them, and the next morning, go on in the same way until the barrel is full; then the cloth, and some boards, or barrel head, and a stone, or weight to keep them under the brine; for the water, or juice of the Cucumber will come out sufficiently, generally, to cover them, if laid closely

together, and they keep better than if water is added; but if need be, a little brine may be put on if they are not all covered with brine in a week from the time the last are in, sufficient to cover all. If kept in a cold cellar they would undoubtedly keep for years; and may be shipped, if the barrel is full and properly headed. I have seen an account of one man having 1,600 barrels, thus prepared for market, in one season.

2. For Pickling, take as many as desired, from this Salt-Pickle and put them into fresh water, and soak them 4, or 5 days, changing the water morning and evening, until sufficiently freshened; then drain off all the water and pour over them scalding SPICED VINEGAR, which see, or use common vinegar, and put in pepper corns, allspice, cloves, etc., or not, as you desire—the better the vinegar, the better will be the Pickles; and if, at any time, they appear to become moldy, or lack in sharpness, take off the skum, pour off the vinegar, and re-scald and put over them again, or, if this is weak, throw it away, and use new, as at first.

Some persons recommend a table-spoonful of alum and a cup of Salt, to each gal. of vinegar, claiming that the alum, especially, makes them green, and also gives them crispness, where there is any softness shown in the Pickles—if, however, at any time, there are soft, or decaying ones, they should be taken out, and thrown away. If they are Pickled, that is put in vinegar, in any considerable quantities at a time, they will, in warm weather, require considerable watchfulness, and re-scalding, or re-newal of the vinegar, unless put up air-tight.

It is important to obtain the best quality of common barrel Salt, and to use plenty of it, otherwise, they will soften and spoil—no danger of getting too much. All the inconvenience of using more Salt than is actually needed, is, that a little more soaking will be required to fit them for the vinegar; but, it is better to take this trouble than to lose them for the want of enough. We have now followed this plan for two years, with entire success.

1. CUSTARDS—Plain, to Boil.—Milk, 1 pt.; white sugar, 4 table-spoonfuls; flour, 1 table-spoonful; butter, the size of a walnut; 1 egg.

Place the milk in a suitable sized basin, and place it in a pan of water, upon the stove, and when it begins to boil, stir in the butter, sugar, flour, and beaten egg, and continue to boil the Custard for 2, or 3 minutes.

2. Another.—A Custard may be made the same as the above, except the flour, substituting another egg for the flour, grating in nutmeg, or using the extract of vanilla, or lemon, and setting in the stove oven, for cooking, or by placing in a steamer, as you choose, or to suit other work being done on the stove.

3. Custard—To Bake.—Make as either of the above, and Bake as a whole, or, it may be dipped into tea-cups, or regular Custard-cups and Baked, to avoid the dipping out to serve at table. May use as high as 4, or 5 eggs, if you choose, to 1 pt. of milk; and some persons choose also to use half as much wine, as milk, or wholly wine, with the inner rind of a lemon, and the expressed juice, also. The inner peel is to be boiled tender, if used, so it can be expressed, to get the full flavor. They may be Baked, or boiled, or steamed, any of them, as you choose; and a little lemon peel may be grated on the top or the dish, if preferred.

CUTTING TIMBER—To Avoid Powder-Post.—Notwithstanding the old tradition that "Timber, to last long without decay, should be Cut in the old of the moon, in Feb.," yet, experience has fully shown that Aug., Sept., and Oct., are the best months in which to Cut, whether it be Timber for buildings, carriages, barrels, barrel-hoops, plane-stocks, or for making machinery. Timber Cut in these months becomes firmer and heavier, and does not "Powder-Post," while that Cut in Winter is almost invariably destroyed by the Powder-Post worm.

CUT-WORMS—To Outwit.—The *Maine Farmer* tells us that they had "Outwitted the Cut-Worm for 2 years, in a very simple manner. We take pieces of newspaper, 8 inches square, tear a slit in one side to the center, and put around the cabbage plants, bringing the slit edges together, and place a pebble, or a little earth on the corners, and the work is done. A raised platform of paper is thus formed around the plant, through which the Worm can not penetrate. We did not lose more than 2, or 3 plants from that cause the last two years. We always think it a great point gained when an effectual safeguard can be obtained against the ravages of insects, and we regard this as one of the *discoveries of the age.*"

I fully agree with the *Farmer*, and had I have known it, when in Minnesota, where upon their light sandy soil, the Cut-Worm is very destructive, I should not have lost half of the plants set out, for which I had paid 75 cents per 100. Let dirt enough be put on to keep the edge of the paper close to the ground; and no doubt it will be as effective with *tomatoes* and other plants liable to their rapacious appetites, as with cabbage.

DEAFNESS.—There is so much of enjoyment and happiness depending upon the ability to hear well, that a considerable anxiety arises, at once, on inability to hear the slightest sound; and although there are but few who are entirely deaf, as compared with the mass who can hear, yet, there are quite a good many whose hearing is more, or less effected.

Causes.—Inflammation is undoubtedly the general Cause of Deafness; and this, as in other inflammations, almost always arises from having taken cold, and neglected to properly treat it, or to remove its effects from the system. This inflammation may be in the outer canal, (*meatus*) leading into the ear; or it may be of the membrane stretched across this canal, called the *membrana tympani* (drum of the ear) from its resemblance of a drum head. This closes up the passage from the outer ear. Then there is an inner opening which has a tube leading into it from the fauces, or upper back part of the mouth, called the Eustachian tube (from Eustachius, its Italian discoverer). Any of these parts are liable to inflammation; and it is well that it makes but little difference where an inflammation is situated, only so far as the convenience, or inconvenience of making local applications are concerned, as the general treatment is the same. What will break up an inflammation in one place, will generally accomplish the same in any other part, or, at least, benefit by beginning an improvement. Deafness may also be left as a consequence of scarlet fever, measles, etc.

Symptoms.—The Symptoms, or sensations realized, on the approach of an inflammation and consequent Deafness, if the inflammation is not subdued, will be a feeling of fullness of the parts, un-

easiness, and perhaps pain, more, or less, according to the severity of the attack; and which, if not relieved, may go on to severe pain, and finally, ulceration, with general fever and prostration; and great restlessness, from its nearness to the brain, which is very likely to be effected, in severe cases, unless soon relieved. There will be also a hardening of the *cerumen*, or wax of the ear, from the heat of the inflammation.

Treatment.—Although this inflammation effects only a small portion of the system, the Treatment must be as thorough and active, in acute, or severe cases, as if it was one of the larger organs that was effected.

Let an active sweat be taken, and let this be repeated at least once a day in acute cases, and once a week in chronic cases until relief is obtained—there is no plan, in my judgment quite equal to the spirit, or hot-air bath; but, according to the choice of the patient, or the conveniences at hand, for taking a sweat, must each case be governed by; and, in connection with the sweating process, a diaphoretic, or sweating medicine must be given that will have a tendency to keep up a little perspiration, such as a tea of the Virginia snake-root (*serpentina*), and of pleurisy-root (*asclepias tuberosa*), equal parts, say $\frac{1}{2}$ oz. of each, to water, 1 pt., drank in the course of the day, and continued as needed. Or the following may be prepared and kept on hand for all purposes of a

1. **Diaphoretic, or Sweating Tincture.**—Virginia snake-root, pleurisy-root, of each, 1 oz.; ipecac, saffron,* and camphor gum, of each, $\frac{1}{2}$ oz.; dilute alcohol, 1 pt. Bruise all the roots, and mix the whole, and let stand a week, or 10 days, shaking daily, when it will be ready for use, and can be strained, or filtered, or used from the dregs, as preferred.

Dose.—A tea-spoonful every 1 to 3 hours, according to its tendency to keep up a moderate perspiration. This diaphoretic being free from opium, with children, and those not used to taking opium, will be preferred, and can be used more freely, if needed.

An occasional purgative will also be needed, and such other general treatment as will restore to, or help to maintain general good health. Warm water may also be poured from a spoon into the ear, every day, once or twice, and retained for a time, as it will soften the wax and help to allay inflammation. But in case of ulceration of the ear, causing the ear to discharge a fetid matter:

2. Take hen's oil, and glycerine, of each, $\frac{1}{2}$ oz.; muriated tincture of iron, $\frac{1}{2}$ oz., with a very little carbolic acid in the mixture, and drop 2, or 3 drops of the mixture into the ear 2, or 3 times daily, after having used the warm water thoroughly.

In case of Deafness arising from an inflammation of the inner ear, nothing can be done in the line of local applications, except the washing, but the general treatment should be thorough, and such as will restore general health; and some think it a great advantage to make and keep up a blister with cantharides, just back of the ear.

Perhaps I take too much for granted, as being understood, when I say: "The general treatment should be thorough, and such as will restore the secretions and the general health." But I would be understood to say: Take a sweat; take a cathartic; take a diuretic if needed; take a tonic, or a tonic and alterative together, repeating the sweat, cathartic, and diuretic, as needed, once a week, or so; sponge,

or use friction upon the surface daily, and continue the use of the alteratives and tonics, etc., until a healthy change has been brought about. This, I trust, will be sufficiently understood, not to need repeating again; as persons must to a greater, or less extent, use their own judgment and good sense, in treating disease—if the general principles are understood, they can do this for themselves, better than to read the large amount of matter that would be necessary to explain every little variation which may arise in the complications of disease—what will give general health, will benefit any and all particular diseases. See DEAFNESS among the MISCELLANEOUS RECEIPTS, under D.

DECOCTIONS.—Decoctions are that class of medicines, more commonly called *teas*, made by pouring boiling water upon the article, or mixture of articles, as the case may be, which it is desired to use; then boiling, or steeping until the strength is obtained. Roots, barks, berries, etc., should ordinarily be ground, or bruised, so as to obtain the strength of the inner as well as the outer portions. Leaves will yield their strength without bruising. With Decoctions, the same as tinctures, I always make them of good strength, $1\frac{1}{2}$ to 2 ozs. to the pt. of water.

DELIRIUM TREMENS.—This disease, called *mania a potu*, or madness from drink, has its *cause* sufficiently indicated by its name, although it does sometimes arise from an over use of opium. It undoubtedly arises from the irritation to the brain from the free circulation of the spirits in the blood, thus exciting the mania, or madness, although it may not, in all cases, cause an actual madness, or raving, but only a restless irritation of the mind. The leading

Symptoms are constant talking, or muttering, motion of the hands, and perhaps of the body also, trembling, quick pulse, constant sweating, but never sleeping, fearful of being injured, and yet liable to injure others in fear that they are about to injure him; although, as a general thing, it is snakes, or devils, or some of the creeping insects that he most fears.

I remember "sitting up" one night many years ago, with a man suffering with this disease; and sometime along in the night he had become quiet and still, so that I was sitting near the foot of the bed, and had taken up a book and was reading, for a moment, with my side and back a little toward him; when, the first intimation that I had of his restlessness again, was a punch of his thumb in my side with the yell: "There's the devil! there's the devil!! there's the devil!!!" with such terror in his voice, which, with the punch in the side, so took me by surprise that I first touched *terra firma*, about 6, or 8 feet from where I sat, as much excited as he was, himself, not much doubting, for the moment, but what the "old fellow" had come, in good earnest, for us both, and certainly not caring much under the excitement, if he did take the patient at once. He had raised himself so gradually, or easily into the sitting position, that I had not heard a move. I mention it to show that they are not to be trusted for a single moment alone; for in these ravings they are liable to injure themselves by jumping out of a window, or in any other way, to free themselves from these imaginary enemies.

Treatment.—Recent experience has shown the warm bath, for from 3 to 8, or 10 hours, with cold applications, to the head, have proved a very successful remedy. Patients have often fallen asleep in the bath. Chloroform inhalations by putting 10 to 20 drops, at a time

upon a handkerchief, may be held over the mouth and nostrils, sufficient to obtain quietness, but not complete prostration, or insensibility.

Morphine, 3 grs.; quinine, 24 grs.; capsicum, $\frac{1}{2}$ oz. Mix intimately and divide into 12 powders, and give 1 powder in $\frac{1}{2}$ glass of his accustomed spirits, and water equal parts, every hour, for 3 or 4 hours, then every 2, or 3 hours, will be found to quiet the nerves and at the same time give tone to the system and stimulate the stomach to take up and appropriate the nourishment which should be given in the form of beef-tea, milk, gruel, etc., at regular intervals, although no appetite will be manifested until the restlessness is allayed. In case that medicines are vomited up, an emetic may be given, after which they will probably be kept down without trouble. No fears need be had about the large amount of capsicum given, as it has been used in doses as large as 1 dr.

In cases where Delirium comes on while a man is still carrying on his long continued debauch, there will generally be a greater determination of blood to the head, than in the ordinary cases arising after a debauch has been discontinued for a short time; then, there must be the most active derivative (drawing power) treatment, such as the feet in water as hot as it can be borne, with mustard in it, mustard plasters to the feet, and back of the neck, sponging with strong cayenne whisky, an active cathartic, etc., which will draw the blood from the head; then follow with the quieting treatment, as at first recommended. Opium in 3 gr. pills, about the size of a common pea, every 3 hours was the former and more common treatment.

An infusion of scullcap (*scutellaria lateriflora*), has been used successfully in obtaining sleep. It is to be taken freely, if used at all.

King, in speaking of the *properties and uses* of this article says: "Scullcap is tonic, nervine, and antispasmodic. This is one of those valuable agents," he continues, "which a certain class of physicians consider inert" (inactive, no power as a medicine), "yet it has proved especially useful in chorea" (St. Vitus dance), "tremors, intermittent fever, neuralgia and all nervous affections. In Delirium Tremens, an infusion, drank freely, will soon produce a calm sleep, etc."

DIABETES.—Dr. Warren begins his description of this disease by calling it "a kind of diarrhea of the kidneys," which pretty accurately gives its characteristic, or leading symptom. If he had said, "a kind of sweet diarrhea," it would have covered the whole ground; for notwithstanding there are a few cases in which there is no considerable amount of sugar in the urine, yet, generally there is.

Causes.—The Causes of the disease are set down to be "excessive use of spirituous liquors, debility, cold, diuretic medicines, poor diet, depressing passions, and an impoverished, or poor condition of the blood;" but, I am well satisfied that the *cause* of the disease is as much in the *dark* as the *treatment*, as there is but very little success in treating the disease. If the absolute Cause was *known*, the treatment would be as positive—avoid the Cause. But as it is not a frequent disease, I have never had occasion to treat it, therefore I can only report a few cases as given by others, where success has been reached.

Treatment.—I will only preface these reports by saying, that, whatever will help to maintain, or regain, as the case may be general good health will benefit the disease.

Then, the spirit vapor bath, once, or twice a week, with daily

spongings with the cayenne whisky, and friction to the skin, will greatly aid in keeping that very important function in order; for the surface is large and, in health, throws off a large amount of waste matter, which if left in the system will soon derange it.

The bowels must be kept in order with the neutralizing cathartic, or some other gentle cathartic as rhubarb, etc., either of which must be used in small quantities at a time, 2, or 3 times daily, so as not to disarrange the stomach by their excessive action.

Perspiration must be aided, of a healthy character, by using a good diaphoretic and sudorific (diaphoretics aid to throw off effete, or worn-out matter, called insensible perspiration, while sudorifics, aid the sensible perspiration, or sweating) and an anodyne which are especially needed in this disease, which will be found combined under the head of DIAPHORETIC POWDERS, which see.

The diet, in Diabetes, is to be restricted to the fresh meats, poultry, eggs, fish, game, butter and cheese, etc., not using the ordinary vegetables, for potatoes contain a large amount of starch which is turned directly and readily into sugar, while parsnips, beets, etc., contain the sugar ready formed, or the sugar principle. The ordinary greens, appear to be allowable, custards made without sugar, and blanc-mange made with cream, not with milk. Brown bread, in place of that made from wheat, rye, or corn. And for drinks, tea, or coffee with milk, or sugar, claret, sherry, spring water, plain brandy and water, weak beef-tea, mutton broth, soda water, water made a little sour with cream of tartar, or tartaric acids; and it is recommended not to drink large quantities at a time, but rather to sip a little and often to keep down the excessive thirst, and not to use spirits only when absolutely necessary to keep up the strength of the patient.

King's Chronic Diseases.

Exercise in the open air is very desirable, avoiding all sudden changes by wearing light flannel next the skin, and clothing warmly, avoiding, especially, damp feet; and also avoiding all indulgences of the passions, saving the strength to prolong life, if life is an object, which to most people it is; then be as careful in all of the foregoing suggestions as possible, for they contain the wisdom of "the books."

1. Cases.—Dr. John King, in his work above named, says: "I have treated four cases of Diabetes mellitus" (sweet, or honey-like) "successfully by the internal administration of nitrate of ammonia in doses of from 10 to 20 grs. repeated 3 times a day, and given in solution. In 2 of these cases there was cataract in both eyes, which disappeared after having continued the use of the solution 5, or 6 weeks" (Would it not do it again?). "In conjunction with this agent, I also, employed the following pills, alternating" (changing) "them every 4 weeks: 1. Take citrate of iron and strichnia" (this is a preparation kept by druggists already mixed), "sulphate of quinia, each, 45 grs.; opium, from 60 to 90 grs.; mix, and divide into 90 pills, and give 1 pill for a dose, repeating 3, or 4 times a day. 2. Take bromide potassium, 270 grs.; ex. of conium maculatum, and ex. of aletris, of each, 90 grs.; mix, and divide into 90 pills; and administer the same as the first." (As these pills must necessarily be made by a druggist, I have not given the common names). "Rennet wine was prescribed, to be taken after the breakfast and dinner meals, and the usual attentions bestowed upon the skin, kidneys, bowels, diet, etc." See my instructions above, as to these items.

2. Dr. W. L. Lay, of Branford, Conn., reports a case to Dr. Beach, of having "cured a very difficult case of Diabetes, which had resisted every other mode of treatment, by means of diet, which consisted of boiled" (I more than suspect, I believe, a mistake is here made, I think it should be *broiled*) "beef-steak, well cooked, and thoroughly chewed, or masticated, without bread, or vegetables of any kind; this was taken 3 times a day in small quantities, with very little drink."

3. Dr. Warren says: That Peruvian bark, and wild cranberry leaves, 1 scr. each, pulverized; and opium, $\frac{1}{2}$ gr., mixed and taken 3 times daily, is a good remedy in this disease.

4. Ammonio-Saline Treatment of M. Mialhe.—The *Eclectic Medical Journal* furnishes the following report by Dr. W. R. Basham, of the success of the plan discovered by M. Mialhe. I have no experience in its use, but would certainly give it a trial, if the previous recommendations should fail in any case. The report is as follows:

"It has been found, by analysis of Diabetic blood, that there is a great deficiency of certain alkaline salts. These salts are absolutely necessary in order that the sugar which is formed in disease, just as in health, should be burnt off at the lungs. M. Mialhe, who discovered the above fact, considers this deficiency the primary cause of the Diabetes. Whether this is so, or not, there is no doubt that such deficiency must react upon the disease. Accordingly, treatment directed to supply this deficiency is likely to prove of service, and in actual practice such is found to be the case.

The best saline mixture is composed of carbonate of ammonia, 10 grs.; phosphate of ammonia, 10 grs.; carbonate of soda, 10 grs.; tincture of ginger, a few drops; 3 times a day, in 1 oz. of water.

This mixture is very grateful to the patient, it relieves thirst, and mitigates the morbid appetite. The tongue generally becomes moist, the urine diminishes in quantity, and contains less sugar. In one case, which may be taken as an average one, the amount of sugar was reduced from 30 grs. to the oz. of urine to 6 grs., and the amount of urine from 14 to 4 pts.

DIAPHORETICS.—Under the head of Diaphoretics, are included all medicines that increase the secretion of the skin, *i. e.*, to remove from the blood such particles of worn-out matter as, in health, pass off by the skin so gently as not ordinarily to be noticed, yet it amounts to quite a considerable every day—these are in contra-distinction from sudorifics, which are actual sweating medicines, causing perspiration more or less free, according to the *amount*, or *kind* taken.

Among the Diaphoretics most commonly used by physicians and families that practice upon *common-sense* principles, may be mentioned the following, as I consider them, the most valuable in the order named, as follows:

1. **Diaphoretic Powders.**—Cream of tartar, 1 oz.; ipecac, 1 dr.; gum camphor, 2 drs.; gum opium, $\frac{1}{2}$ dr. Purchase these articles all pulverized, if druggists have them that they know to be genuine, if not, the camphor must be pulverized by putting a little alcohol upon it, then rubbing in a mortar until it is pretty fine, when a little of the cream of tartar may be put in which will help to pulverize the camphor, after which add the opium which has been pulverized, then the pulverized ipecac, and finally the balance of the cream of tartar; mix all very thoroughly, and bottle and cork for use.

DOSE.—Half a tea-spoonful 3 to 5 times daily, or more often for 2, or 3 times, in cases of severe pain. To be given in a little sirup, or molasses, or hot teas if sweating is *intended*.

This is especially valuable in diabetes from the fact that a Diaphoretic is needed to excite the skin to gentle action, and because it is believed that opium lessens the secretion, or formation of sugar, by the liver, which is found so abundant in the urine, although, in this disease, there is seldom any pain whatever. And it is also especially valuable in all diseases of a painful character, and where there are large secretions of mucus, as in colds, diarrhea, dysentery, cholera-morbus, rheumatisms, fevers, inflammations, after pains, painful menstruation, and to quiet nervous excitement, or irritation, and to procure sleep.

I think this prescription was first published, and nearly the same as now used, by Dr. Beach, one of the first men who in earnest, and with perseverance, wrote against and done all in his power to overcome the terribly destructive practice of bleeding, and gorging with calomel, of Alopathic, or Old School physicians, as followed by them 30 or 40 years ago. They now call themselves "The Regulars." Well, I am glad to acknowledge that between the Eclectics and Homœopaths, the first continually crying out against their terrible abuse of constantly "bleeding" and "calomelizing," and the latter, giving "nothing," as compared with their extremely large doses, they have now become more entitled to their claimed title "regulars," yet they, for some little time, have been trying to *steal* the name of their principal opponents—Eclectic—but, they have much yet to abandon, as well as adopt, to entitle them to so honorable a name. I shall be as glad as any one, however, to see them abandon *all* "old foggy" systems, and adopt the *common sense* plans as shall enable us to all walk and work as Eclectics—choosing *all* the *good* and throwing *all* the *bad* away. See ECLECTIC, OR ECLECTICISM.

2. The following articles will also be found among the valuable Diaphoretics. pleurisy root (*asclapias tuberosa*), ginger root, pennyroyal, Thompsons Composition, kept by druggists generally, catnip, sage, and the warm foot-bath, spirit vapor-bath, hot fomentations, hot sheet-packing, etc., etc.

About 1 oz. of any of the herbs may be steeped in water, 1 pt. to be drank more or less freely as actual sweating, or simple, or slight perspiration is intended. The ginger, or the composition, need not be used in more than half that quantity, as they are more stimulating and penetrating in their action, and also very efficient in recent, or severe colds. The pleurisy root is very valuable in all acute inflammations, soothing to the nervous system, as well as a certain Diaphoretic. The pennyroyal is generally stimulating with its Diaphoretic powers; and Prof. Scudder says "it is one of the best remedies known in arresting the discharge after child-birth, a proof of its power and utility in other affections."

3. To Obtain Simple Diaphoretic tendencies from these medicines, powders, and teas, or decoctions, it is only necessary to take the teas *cold* and in doses of a gill, or so 3, or 4 times daily; and the Diaphoretic Powder in *cold* tea, or molasses 3, or 4 times daily; but, by taking them *hot*, and in large, or more frequent doses, they actually become *sudorific*, or powerful means of getting up actual sweating, hence it will not be necessary to add but little under the

head of Sudorifics; and what further is said upon that head may mostly be said here, as well as there.

In the use of any of the baths, as a general thing they are not half as efficiently performed as they should be. When a foot-bath is to be taken, have as deep a bucket as you can, and fill it just so that the feet and legs will not run it over, the water being as hot as it can be borne, and as soon as it does not feel *hot*, dip out a dipperful, and put in another of boiling water to raise the heat as high as it can be allowed, and keep this up for, at least, 20 to 30 minutes, taking any of the Diaphoretic Teas, *hot*, as preferred, or a dose of the Powder in hot tea, and follow with hot teas, to accomplish what you have under taken—a free and effectual sweat—then take the bed, and keep up the use of teas, an hour, or so, as needed. And if the patient is to feeble, or any other reason why they may not sit up, wrap them in sheets wrung out of hot water and cover warm, and place hot stones, irons, bottles of hot water, or in places where corn is plenty, ears of corn boiled and wrapped and laid all along the sides of the body, limbs, etc., will soon start a perspiration which may be made as effectual, or as slight, as the case demands; but remember this, “whatever is worth doing is worth doing well,”—it holds *doubly* good in medicine. I do not mean to be understood that anything is to be *overdone*, but done *well*.

Whatever will cause a healthy action of the skin will also come under the head of Diaphoretics, or Sudorifics, as bathing in plain, or stimulating baths, frictions with, or without stimulating mixtures, sweating tinctures hot-air, or spirit vapor-bath, moderate exercise, etc., etc. See FOMENTATIONS.

DIARRHEA.—The meaning of the word Diarrhea is a pouring through, which it often, abundantly and freely does, most commonly, however, during the warm weather of Summer and Fall.

Cause.—Its most common cause, undoubtedly, is an over eating of the vegetable, or more, or less unripe fruits of the season. It may arise also from exposure to cold, or to extreme heat, or from over-loading the stomach, even with digestable food, from great fear, or anger, from confinement in illy ventilated rooms, use of acid drinks, as beers, sodas, etc., or from teething, with young children.

Symptoms.—The meaning of the word indicates the prominent, or leading symptom, or literal “pouring out” of the contents of the bowels, with a rumbling sound in the bowels, before and during the evacuation; and there may be a sense of weight, or heaviness also, with more, or less griping, and occasionally, nausea and vomiting, but then it partakes more of the nature of cholera-morbus.

Treatment.—It matters but little, from what cause it may have arisen, there will be found a determination of blood to the stomach, liver, or intestines, in other words, the general system is not in harmony, the skin and kidneys probably are not doing their part of the work of eliminating (carrying off) the waste matter of the system. Then, if it has arisen from over-loading the stomach, the best thing to do is to take an emetic, which not only takes the irritating matter up out of the way, instead of allowing it to go down, tearing and irritating as it goes, but also has a great tendency to excite the skin and general system to a healthy action, which may be aided by a warm-bath, or by the daily sponging with the cayenne and whisky, and plenty of friction, warm clothing, especially if it is a cold and damu

time. But, if the patient refuses the emetic, and there is nausea, put a mustard plaster over the stomach, and give a large dose of the *neutralizing cathartic*, and repeat it in moderate doses, once an hour until the bowels are evacuated of the irritating food; then, repeat the dose at 2, or 3 hours apart to regulate the bowels, which it will do, very generally.

But in case the discharges are very green, or bilious, the *podo-philin pill* may be taken to regulate the liver a little more thoroughly, although this will seldom be needed.

1. If the *Neutralizing Cathartic* does not seem to restrain the frequency of the discharges, as might be deemed sufficiently, within 24, or 36 hours, take 4 ozs. of that article; ess. of cinnamon, and peppermint, of each, $\frac{1}{2}$ oz.; and paregoric, 1 oz. Mix, and add to that, 1 oz. of Hunn's Life Drops.

Dose.—A table-spoonful every 1, 2, 3, or 4 hours, according to the necessities of the case, with either of the additions.

But, if there is considerable griping attending the passages, the following

2. Injection had better be given after each passage: Castor and sweet-oils, of each, 1 oz.; flax-seed tea, or slippery-elm tea, 1 pt.; laudanum, $\frac{1}{2}$ tea-spoonful. Mix thoroughly, and inject warm. Or, castor-oil, $\frac{1}{2}$ gill; molasses, and water, of each, $\frac{1}{2}$ pt.; laudanum, 20 to 40 drops. Mix and inject warm; and if there is no castor, or sweet-oil at hand, half the amount of melted lard may take their place, but not quite equal. If no laudanum, or paregoric is at hand, 3, or 4 peppery heads may be steeped in the water, strained, and take the place of them, but, like the lard, not quite so certain in their action, but very good.

3. *Compound Blackberry Root for Diarrhea*, will be found very valuable: Take blackberry root, washed, cut fine and bruised, and the dried fruit, of each, 4 ozs.; bayberry bark, 2 ozs.; crane's bill (geranium) root, and cinnamon barks, of each, 1 oz.; gum myrrh, and fennel seed, and cloves, of each, $\frac{1}{2}$ oz.; pulverized sugar, $\frac{1}{2}$ lb.; brandy, or best rye whisky, 1 pt.

Bruise all the articles and put them to 3, or 4 qts. of soft water, and half of the whisky, and simmer for $\frac{1}{2}$ a day, or until about half the water is evaporated; then strain and press out, and boil down to a pt. and add the sugar while hot; and when cold, add the $\frac{1}{2}$ pt. of spirits left.

Dose.—A tea-spoonful, every hour, for 2, or 3 times, then once in 3, or 4 hours, as needed, especially valuable with children, in Doses from 5 to 30 drops, according to age, and if over 5, or 6 years old, a tea-spoonful may be given for a Dose.

4. *Burned Rheubarb for Diarrhea*, has been successfully used in many cases: Take 1 oz. of the pulverized root and burn it to a black dust, or ashes, in an iron dish, over coals, stirring carefully to make it all alike.

Dose.—Half a tea-spoonful 3, or 4 times daily, in a little molasses, or sirup. Dr. Gunn says he has cured 9 out of 10 cases with this article.

This is undoubtedly very astringent. I should fear too much so for general use; at any rate, no matter what other remedies I use, I *always* use the *neutralizing cathartic* first, then, if I deem it necessary, between the doses of that article, I use any of the others as the case demands.

The diet, however, be it always remembered, must be restricted to absolutely healthy articles; rice boiled in milk, or milk boiled and thickened with a little flour, are as good as anything that can be taken for the time being; warm break, or bread baked the same day must not be eaten. Mutton is the best meat, and mutton broth, with rice boiled very tender, in it, may be used also, a little flour thickening having been also stirred in; but a little chipped, dried beef, with dry crackers eaten slowly, to allow sufficient saliva to flow for swallowing, may be used, with satisfaction; but cold water should be avoided. Cold flax-seed tea, or cold slippery-elm mucilage may be taken, a little at a time.

5. It has been reported that old rusty, well-smoked bacon sliced and sufficient of it fried to obtain $\frac{1}{2}$ pt. of the grease, into which slice 2, or 3 good sized onions, and stew out all the juice, then pour off, pressing out all the juice from the onions, and taken in doses of 1 tea-spoonful daily, or $\frac{1}{2}$ tea-spoonful twice, daily, has cured, invariably, the old "Mexican," and "California Diarrhea," when all other remedies failed.

6. Dr. Gunn, of Louisville, Ky., in his New Domestic Physician, reports a case of a friend of his who cured himself of a most inveterate (obstinate) Diarrhea, of several months standing, after trying everything else he could hear of, by simply eating once a day, as his dinner, a slice of raw smoked bacon-side (in fact it is not called bacon unless it is smoked), a raw onion, and plenty of salt, and bread. It required only 2 weeks to effect the cure. The Doctor adds: "The remedy is not bad to take, if one is hungry."

I have given these cases, not absolutely for their singularity, or the surprise they will cause in the minds of many persons; but, because the disease may occur in places where no other remedy can be obtained, then, I would certainly recommend their trial.

1. DISCUTIENTS—To Drive Away Tumors, Swellings, etc.
—Ointment.—Take the bark of the root of the bitter-sweet (*solanum dulcamara*; this is sometimes also called woody night-shade, because it has a woody vine and a woody root); the roots of yellow dock and poke; the leaves of the deadly-night-shade (*atropa belladonna*); the poison-hemlock (*conium maculatum*), and of Venice turpentine, of each, 3 ozs.; stramonium seed, bruised, 1 oz.; lard, $1\frac{1}{2}$ lbs.; good whisky, 1 qt.

Bruise the roots, bark, and leaves, and cover them nicely with the whisky, and steep them in a covered dish for 5, or 6 hours, or set in a warm place for 24 hours; then add the lard and increase the heat until the articles are all crisped, and strain and press out all the lard, or Ointment through stout muslin, adding the Venice turpentine, and stirring until cold, boxing for use.

This Ointment is exceedingly valuable in Discussing (dispersing, or driving away) indolent Tumors (having little, or no pain), scrofulous Tumors, Swellings of the glands, etc., or for any Swelling of any part of the system arising without any direct injury to the parts. It should be well rubbed in for 15, or 20 minutes and heat in by the stove fire, or by a heated iron, held as near as it can be borne, at least 3 times daily, the parts being covered with cotton, or flannel according to the season, or chilliness of the parts, secured by proper bandages. It originated, I believe, with Dr. Beach, of New York city, but it has been somewhat modified, of late, by Prof. John King, of Cin-

cinnati, O.; but it is extensively used by Eclectics, or the *American School* of practitioners, who care more for *curing disease* than they do for the honor of belonging to the "old fogies, who, generally will have nothing to do with any medicine which does not come through the books." See an explanation under the head of GALL-STONES.

2. Discutient Liniment.—Aqua ammonia, pyroligneous acid, oil of origanuin, spirits of turpentine, and sweet-oil, of each, 1 oz. Mix, and bottle for use.

Apply to all kinds of hard and intolerant Tumors, gatherings, and hard Swellings, to Discuss, or scatter them; also to callous enlargements of the bones. Use freely as a Liniment.—*Gunn's New Domestic Physician*.

The Ointment is the most powerful Discutient; but the Liniment may be used in the milder cases, or alternated with the Ointment in obdurate, or bad Swellings, or enlargements.

1. DIURETICS—Cordial.—Take of the leaves of the trailing arbutus (*epigaea repens*, known also as winter-pink, gravel-weed, mountain-pink, ground laurel, mayflower, etc.), queen-of-the-meadow, and marsh-mallow roots, bark of the dwarf-elder root, wild-carrot root, or seed, the root of the common pod milk-weed, juniper berries, and cleavers, often called goose-grass, and spearmint herb, of each, 1 oz.; good gin, and soft water, of each, 1 pt.; strained honey, 1 lb.

Bruise the roots, barks, etc., and put all into a dish that can be closely covered, with the gin and water, and steep for 4, or 5 hours, and strain and add the honey. If any one, or two of the articles can not be obtained, proceed the same with the others.

Dose.—It may be taken freely, a gill, or so, 3, or 4 times daily, according to the condition, or necessity of the patient. It may be taken every hour, in suppression of the urine, or severe pain of the urinary organs in gravel, etc., for 3, or 4 times, then less often. It will be found valuable, in dropsy, gravel, suppression, inflammations of the kidneys, bladder, urethra, etc., etc.

2. Diuretic Elixir.—Juniper berries, and spearmint herb, of each, 2 ozs.; best gin, 1 pt.; loaf sugar, 4 ozs.

Bruise the berries and break up the herb fine, and put into a suitable bottle with the gin, and shake daily for a week, or 10 days, and strain, and add the sugar. If, however, there is need to use it sooner, steep in a covered dish 4, or 5 hours, strain and add the sugar.

Dose.—A tea to a table-spoonful 3, or 4 times daily, for a day, or two, will be found to increase the flow of urine very materially, and for all ordinary purposes will be all that is needed, as it is mild and effectual.

3. The Fluid extracts of *uva ursi*, and *buchu*, of each, 1 oz. Mix.

Dose.—A tea-spoonful in a little sweetened water, 3, or 4 times daily.

This combination will be found a valuable Diuretic in chronic inflammations of the urinary organs, and especially so when the urine passes involuntarily.

4. Acetate of Potash, 1 oz.; water, 8 ozs.; simple sirup, 2 ozs., mixed, will be found an excellent Diuretic, in fevers and inflammations, headaches, etc., as it helps to carry off the urea, or solid matter that should be carried off by the urine.

Dose.—A tea-spoonful every hour, 2, or 3 hours, as required. Prof.

Scudder, claims this to be also a valuable alterative, curing "scrofula and similar diseases when other remedies fail." He gives us a substitute for those living far from a druggist—"a table-spoonful of saleratus with cider vinegar to render it slightly acid, and water to make 4 ozs."

Dose.—Same as above.

5. **Hot Fomentation**, or hot cloths across the bowels, in retention of urine are very valuable in connection with any of the above remedies, or any other simple remedy known to any one, and at hand.

6. **Diuretic Liniment**.—Oils of juniper, horsemint, and spearmint, of each, 1 oz.; best Alcohol, 8 ozs., mixed and rubbed into the back, over the kidneys, will be a valuable aid to other Diuretics, in diseases of these organs—rub in thoroughly, 3 or 4 times daily.

DROPSY.—This disease takes different names according to the part of the system in which the serous, or watery part of the blood may be deposited. If in the cellular tissue which lies immediately under the skin (as farmers are aware; for, when they skin an animal, if they lift up, or pull on the skin, it seems to be attached to the body only by a loose cell-like membranous tissue which they cut, thereby avoiding the danger of cutting the skin). In this tissue it takes the name, *anasarca*. In the cavity of the bowels, *ascites*. In the chest (that part above the diaphragm—the breast) it is called *hydrothorax*. In the brain, *hydrocephalus*. In the *scrotum*, *hydrocele*. Then there is ovarian Dropsy, Dropsy of the heart, womb, etc., etc.; but they all come under the general head of Dropsy, and, as a general thing, require very similar treatment, as it will be seen below.

Cause.—The Cause of Dropsy is undoubtedly *debility*, weakness of the parts, which may arise from almost any other disease, as scarlet fever, fever and ague, diseases of the liver, dysentery, excessive bleedings, whether by the lance, or from internal organs, as the lungs, or womb, inflammations, rheumatisms, etc., or from any disease that produces general debility; and it may arise from pressure upon blood-vessels, as in pregnancy, aneurisms, tumors, etc., and some think more frequently from drunkenness than from any other one Cause. Dropsy of the heart sometimes arises from ossification (becoming bony) of the valves of that organ; and it may arise from structural change of the kidneys, in either of which cases but little, if anything can be done for it. Long continued bowel complaints of children may produce it, and, if so, generally of the head—*hydrocephalus*.

Dr. Beach says that "a morbid" (unhealthy) "state of the stomach and bowels has been supposed by some to be a predisposing Cause; but of all the Causes which contribute to the production of this disease, cold plays a most conspicuous part."

I suppose he introduces the word "cold" to give an apparent reason for introducing the *sweating* process as a cure; but I claim that it is not necessary that an obstruction of the stomach, or bowels, or skin, or any other organ should have arisen from "a cold" to make it proper to use a vapor-bath to remove such obstruction. I care not from what Cause an obstruction may arise in the skin, especially, nothing is better calculated to relieve it than a vapor, or hot-air bath; and the skin in Dropsy, is almost always inactive, dry, and harsh.

Recent observations in physiology have shown us that the veins have considerable to do in the work of absorption. The serous mem-

branes which line all the large cavities of the body are constantly secreting a serous, or watery fluid which keeps their surfaces moist and allows the various organs in the cavities of the body to move upon each other without injury by friction; and it is the part of the small capillaries, or veins of these parts to take up (absorb) and carry off this fluid, after it has performed its work of lubrication (making slippery), otherwise these cavities would soon be filled up, which is actually the case in Dropsy—stimulate and restore the general health, and Dropsy is cured, when taken in time.

Symptoms.—General debility will nearly always be present, on the approach of Dropsy, although perhaps it may not attract any considerable attention until a deposit of the watery fluid has commenced. The skin will almost always be dry and shriveled in appearance, and harsh to the feel, the shriveling, or contraction of the skin closes, or partially so, the capillary vessels, or veins of the skin preventing a free circulation of the blood, and above all things else, calling for heat and vapor, or moisture, to relax them and help to restore health, as the treatment will show. There will also be scanty and high colored urine, pale countenance, and if a cut, or scratch occurs, the blood will be found pale and watery. The feet and legs will begin to swell and feel colder than usual, if it is cellular Dropsy, which will extend up the legs, and perhaps over the whole surface, arms, face, eye-lids, etc., the skin of the legs, especially, have been known to crack open from the pressure of accumulating water, or water may be deposited in the cavity of the bowels, or chest, or head, according to which ever part is the *weakest*, consequently the most liable to disease. Then what will restore, or give general health, will cure the disease if it is at all curable, *i. e.*, if it has not existed so long as to have reduced the system beyond the possibility of being restored to healthy action. In this disease, as in all others, the safety is in beginning to aid nature early in her needs of help.

The water begins to leak through a mill-dam, which, if attended to at once, takes but little to stop the leak; but if long neglected, the dam is all washed away. The same holds good in disease; but here the contrast ends, for a new dam can be built; but when *life* is tottering, from long neglect, but little, or no good can be done, and we must wait to the "resurrection morn" to see the *new* life.

Treatment.—It is very fortunate that it matters but little what part of the system the water may be deposited in, if taken early in the disease, the disease not having arisen from ossification of the valves of the heart, nor from a change of structure of the kidneys by *albuminuria*, or Bright's disease, the Treatment needs to be about the same, and the prospect will be fair to restore health.

1. I find it of the utmost importance to attend to the condition of the skin. Excite it to a healthy action by any mode of free perspiration preferred by the patient, whether it be by the *spirit-bath*, or by a tub, or kettle of hot water, with hot stones, hot bricks, or irons, as may be the most handy, put into the hot water to throw off steam, the naked patient sitting in a chair, covered with suitable blankets to keep the steam around the person as it rises, the feet in moderately hot water which is to be kept hot by dipping out the cool and adding more hot, from time to time, for 15, or 20 minutes; and to be repeated every day until, with the other Treatment, the water is beginning to be carried off, then 2, or 3 times a week, as needed. Sponging the

whole surface daily, with the capsicum and whisky, with considerable friction by means of a brush, hand, or coarse towel, which greatly helps the circulation of the blood in the skin, and thus very greatly relieves the difficulty. Then use over the loins, or kidneys, the following:

2. Cajeput Liniment—For the Loins in Dropsy.—Oils of cajeput, juniper, sassafras and spearmint, of each, 1 oz.; strongest alcohol, 4 ozs. Mix, and apply and rub, or heat in well, 2, or 3 times at each application, and at least 3 times daily, unless too much irritation is produced.

At the same time cathartics that will help carry off large watery discharges must be given. The following will be found effectual and satisfactory:

3. Jalap, $\frac{1}{2}$ oz.; cream of tartar, 1 oz.; powdered elaterium, 4 grs.; powdered capsicum, 1 dr. Mix intimately together and divide into 20 powders.

Dose.—Take 1 powder in a little sirup, or molasses, morning, noon and night, and if this does not cause as free a cathartic action as the patient can well bear, take another at late bed time, until a free and full cathartic action has been brought about, which may be repeated every 3, or 4 days, as needed. In places where the druggists do not keep the elaterium, pulverized senna, 1 oz, may be used in its place; then to be taken by putting a tea-spoonful into a tea-cup and pouring on 3, or 4 tea-spoonfuls of hot water, with a little sugar, and stirring, and when sufficiently cool to be drank for a Dose, and repeated once, or twice, at least, as above until a free evacuation is obtained; and every 3, or 4 days also as directed for the other preparation.

4. Some may prefer the following pill:

Scammony and gamboge, pulverized, of each, 12 grs.; croton oil, 8 drops; elaterium, 2 grs.; extract of stramonium, 3 grs. Mix very intimately and make into 15 pills.

Dose.—Two pills may be taken at first, and repeat 1 pill every 2 hours until a free cathartic action is produced. To be repeated again in 4, or 5 days, as long as needed.

If any considerable weakness is brought about by the sweating and cathartic action, the patient must have stimulants, as brandy, or wine, and nourishing food.

5. After a free cathartic action has taken place, diuretic action must be also established with 2, or 3 of the following articles, or some of the regular diuretics, mentioned under that head:

Dwarf-elder (*arolia hispida*, sometimes called, wild elder, bristle stem, etc.), parsley root, King says this is "very useful in Dropsy, especially, that following scarlet fever, or other exanthamitous" (eruptive), "diseases," juniper berries, spearmint, horse-radish, "infused in cider and drank freely, the patient being warmly covered will produce a free discharge of urine and sweating, and has cured cases of Dropsy in a few weeks, repeating it every night, or as the strength of the patient would allow."—*Am. Dis.*—Queen of the meadow, Indian hemp, (*apocinum cannabinum*), and white mustard seed, root of the whortleberry, etc., will be found among the best medicir for Dropsy that we have.

There are those who think that only 1 diuretic article ought to be used at a time; but I think that not less than 3 should be combined; for it is not yet possible to tell positively which one might be the

best for any particular case; hence, as they will work in harmony, one not interfering with the action of the other, time, which, in disease is exceedingly valuable, is saved, as the one which may be chosen, sometimes might not prove as satisfactory as some other.

6. Dr. Béach recommends the following combination: Queen-of-the-meadow, and horse-radish root, of each, 1 oz.; milk-weed (*asclepias syriaca*, I give the technical, or medical name if I think there is a chance for confusion, or not understanding which is meant), juniper berries, and prickly-ash bark, of each, 2 ozs.; and white mustard, $\frac{1}{2}$ oz. Bruise all the articles separately, mix and add to good sound cider, 1 gal. Steep if needed immediately, or let stand a week, or 10 days, shaking daily—3, or 4 hours steeping will do as well.

Dose.—A wine-glass, or about $\frac{1}{2}$ tea-cupful 4, or 5 times daily, or as much as the stomach will bear without souring, or raising it. If it will not bear the cider, steep a single handful of it daily in water, 1 pt. and drink it at proper intervals.

7. Dr. King, in his valuable work on *chronic diseases* previously referred to, says: "For a constant drink, it will be better for the patient to use some diuretic infusion, or decoction, as equal parts of dwarf-elder and juniper berries; or equal parts of spearmint, parsley root, elder bark," (our common sweet elder) "and Indian hemp root; or, equal parts of queen-of-the-meadow root, dwarf-elder, and Indian hemp. The infusion, or decoction of either of these compounds may be drank pretty freely whenever diuresis" (passing the urine in large quantities), "or quenching the thirst is desired." I give my preference for the last named combination. To make the infusion, or decoction, pour on boiling water, and steep in a covered dish, for an hour, or two.

8. The value of the Indian hemp, and of the bath, or principle of sweating, as also recommended will be further confirmed by the following letter from a Mr. Lynn, of the Irvin Institute, published in the *Christian Advocate*, showing how his wife was cured of Dropsy, after the physicians of his own town, and two eminent (?) ones of New York, had given up that a cure could not be effected. He says:

"We had used a great variety of remedies prescribed by our physicians, without benefit, and finally submitted to the operation of tapping, under the direction of Dr. Palmer, when 3 gals. of water were drawn off in 5 minutes. This afforded immediate relief; but the water collected again, and in about 3 weeks, the bloat, or enlargement, was nearly as great as before. She was advised by a friend who had suffered by this disease, to use the Indian hemp, medically called, *apocynum cannabinum*. She commenced drinking a decoction of this vegetable medicine, which proved very beneficial in checking the progress of the secretion of water, and greatly improved her general health. Just at this time, Sister O'Brien sent us word from New York, to use the vapor-bath, which she had known to be efficacious in some desperate Dropsical cases, in England. I had a convenient apparatus made, and commenced the use of it twice a day, 15, or 20 minutes each time; and in combination with this valuable remedy, she used the Indian hemp. In about 2 weeks there was an apparent improvement of general health and strength; and in 2 months more the Dropsical affection had entirely disappeared; and her general health is decidedly better than it has been for some years."

I believe the spirit, or hot-air bath will do just as well; but if any

one thinks best, they can use the old plan of putting the feet into a bucket of hot water, and placing a tub of hot water under a chair upon which the undressed patient sits, a blanket, or coverlet, or two, covering the whole except the head of the patient. Then, from time to time, put a small stone, or half a brick, or a small piece of iron, either of which must be just hot enough to raise a steam that it can be borne by the patient. After this process has been borne as long as you think best, let the patient arise, and draw the blanket around them closely, and take the bed, covering well for a few minutes until the bed is warm, then the blanket may be pushed down and taken out without checking the perspiration, or causing a chilliness to the patient, which should always be avoided in sweating.

Prof. Scudder, in his work, published in 1870, on "Specific Medication and Specific Medicines," *i. e.*, medicines that have a certain curative action, in speaking of the Indian hemp, on page 73, says: "The apocinum" (Indian hemp) "is a true specific for that atonic" (weak) "condition of the blood-vessels, that permits exudation" (passing out through the pores of the watery parts of the blood), "causing Dropsy. I have employed it in my practice for some 8 years, and it has not failed me in a single case, where the diagnosis was well made," *i. e.*, when the cause of the disease had been properly distinguished, as against structural change of the heart, or kidneys, as before mentioned, from which no help is possible." He continues:

"It is a positive remedy for Dropsy, whether it takes the form of *oedema*" (cellular, or swelling of the limbs) "*anasarca*" (of the abdomen, or bowels), "or Dropsy of the serous cavities, when there is no obstruction of the circulation, and no febrile action. We would not expect it to effect a cure of Dropsy from heart disease, or *ascites* from structural disease of the liver," (or kidneys) "neither would we when there was a frequent hard pulse, and other evidences of febrile" (feverish) "action. Still in these cases, if we can partially remove the obstruction in the first case, and after an arrest of febrile action in the second, the *apocynum* will move the deposit."

The Dose and proper method of giving the Indian hemp* is to take 1 oz. of the powdered bark of the root, and boil it in water, 1 pt. and take from 1 to 2 table-spoonfuls 3, or 4 times a day. See note for its description and properties. Prof. Scudder is in the habit of making an alcoholic fl. ex. by taking the recently dried root, 8 ozs. to alcohol of 76 per cent, 1 pt.; then, for a Dose, he puts 1 to 2 drs. (1 to 2 tea-spoonfuls), of this to water, 4 ozs. (a medium sized tea-spoonful), and gives 1 tea-spoonful every 3 hours.

"Dr. Griscom states that this agent has four different and distinct operations upon the system, which it almost invariably produces, viz.: 1st, nausea, or vomiting; 2d, this is followed by increased alvine" (alimentary) "discharges, which are succeeded, 3d, by copious perspiration, and in many instances, 4th, by diuresis" (increased flow of

* NOTE.—The Indian hemp is a species of milk-weed, growing from Maine to Florida, growing plentiful in Ky., especially plentiful there, as I should judge, as King's Dispensatory, informs us that the bark of the stem, there, is used to make rope of a very durable character. The bark of the root, however, is the part used in medicine as stated above. The stem is 3, or 4 ft. high, and when bruised throws out a milky juice that becomes hard like opium, by the heat of the sun. It blossoms from May to August, and should be gathered during this time. It loses its value by being long kept; hence, every year should furnish its own supply. It yields its properties to water, and only partially so to alcohol.

urine). "In a *full Dose* it occasions considerable sickness at the stomach, lessens the pulse, and produces an inclination to sleep, probably from some somniferous" (sleep-producing) "principles in it—copious vomiting soon ensues, and the other effects, as above stated."

The Dose recommended in Dropsy, is not so large as to produce these effects, at least, it is not intended to do so; but I have deemed it very important that this knowledge of its effects should be understood by the people, so that if, in *any* case, such effects should arise from some peculiarity of the person (idiosyncrasy), or of the system, it should be known from whence it arose, so the Dose could be lessened, and the distance between Doses a little increased. Dr. King gives it as his opinion that the *decoction* is the *better way* to give it, and also, in the Dose above named.

9. The bark of the wild, or common grape vine, burned to ashes, and given in wine, 1 tea-spoonful, to $\frac{1}{2}$ table-spoonful of the ashes to a wine-glass of Catawba wine, 3 times a day, has cured very severe cases of *ascites*, or Dropsy of the abdomen.

Dr. Gunn, in his *new* work gives the history of a very remarkable case cured by this means, introducing the subject by the following very sensible remarks upon the "vegetable kingdom," as being the place to find a *cure* when "other medicines have failed." He says:

"The discoveries of each succeeding day convince us of the importance of attending *more strictly to the various herbs, roots, barks, leaves, etc., of the vegetable kingdom*; for I am fully convinced of their being essential in the cure of many diseases, in which *other medicines have failed*. A wise and beneficent Creator has given to every *herb, and leaf*, medicinal virtues; He has made nothing in vain; the most uninviting and noxious weeds frequently give relief in almost hopeless cases—those which have baffled the profound skill and most powerful energies of genius. A case of this kind occurred in Louisville, Ky., a few years since. A lady of wealth, Mrs. L., distinguished for her *charities*, and commanding the *regard and affection* of all who knew her, was afflicted with this disease—Dropsy, or *ascites*. She was attended by some of the most distinguished physicians of that city: Dr. Richmond, her family physician, Professors Gross, Cochran, Rogers, and Knight, with the consultation of many other professional gentlemen, who pronounced her case *incurable*. She had been tapped 6, or 7 times, and the *enormous* quantity of 30 gals. of water drawn from the abdomen; the last operation drawing off nearly 6 gals. In this dangerous and critical situation," says Dr. Gunn, "I was called in to see her. It was with great difficulty, from the quantity of water secreted in the abdomen, that she could be moved; and, indeed, the slightest motion of the body produced great distress, and almost suffocation. The discovery of a *new*, and though a simple one, a *powerful* remedy in curing this disease, induced me to undertake her case; and I thank God that I have it in my power to divulge this method of cure, which may be the means of restoring *hundreds*, perhaps *thousands*, to health and vigor, and aid in arresting the progress of this *most distressing* and too often fatal disease.

"The remedy for this complaint, though *apparently* a simple one, has produced some surprising and unexpected cures. Take the bark of the common" (by which he undoubtedly means the *wild*) "grape vine, and burn it to ashes, stirring it occasionally until it is thoroughly burnt. The dose is a tea-spoonful to half a table-spoonful in a

wine-glass, or more of Catawba wine, 3 times a day, increasing, or diminishing the dose and wine as it can be borne on the stomach. The bowels to be kept open by *salts*, or *compound powder of jalap*, elaterium, or some mild purgative; or actively purged, according as the patient is of a weak, or strong habit of body; the jalap evacuates copiously by reducing the swelling of the abdomen; it should be given 2, or 3 times a week. The *vapor-bath*, as before described, was used *once*, or *twice* a day, as its administration could be borne in the treatment of her case; and I am now forcibly impressed with the opinion that a judicious *course* of this kind of treatment will constitute the *very best* in Dropsical diseases. I should recommend the food to be nourishing, digestible animal food, with gentle stimulants, porter, ale, etc. All drinks should be taken cold, in small quantities, and frequently repeated. Cider and gin are good for many persons; but this is greatly dependent on former habits, and the constitution of the patients.

"In 2 months from the commencement of this Treatment, Mrs. L. was reduced to her natural size, and restored, through the blessing of God, to *perfect health*. When she attended the First Presbyterian Church, Rev. J. C. Breckenridge, pastor, of which she was a member, she excited great astonishment at her unexpected recovery. *As it was important that great care should be taken to prevent a return of the disease*, I prescribed tonics to restore the general system, and advised her to visit the Sulphur Springs of Va., for all waters that contain sulphur, or iron, will prove beneficial in improving and restoring the general health, as they act directly upon the kidneys, increase the flow of urine, and give new activity to these important glands. She returned from the Springs in fine health, was married to a most amiable and worthy gentleman, and lived for many years in the social enjoyment and happiness of her amiable family, and friends; and died, at last, of cholera, and has gone from this earthly sphere to that serene abode of peace and hope where there shall be no more sickness and death, there to enjoy that glorious and blessed home of her Father and Redeemer for evermore." May this be the ultimate attainment of all who may read this Work, is the earnest prayer of the writer, who as firmly believes that there is such a state, as he believes in his present existence; and who, not like some expects to *sit down* there to an *everlasting rest*; but rather believes that Heaven shall be worthy of its name, by permitting those who are sufficiently fortunate to attain to it, to be *up and doing*, *i. e.*, to pass from world to world, being freed from the clog of this earthly body, as quick as thought now passes, to learn more and more of God's wisdom and goodness in the creation of the world's throughout the emensity of space, and to occasionally pass before His visible presence, and to fall down and worship Him that sitteth on the throne, and thus to do homage, from time to time as we speak of occurrences here, to the Father, the Son, and the Holy Spirit forever, and forever—to become "Spiritualists," "indeed, and in truth." If to attain to such a spiritual life as this, beyond the tomb, is not a sufficiently high aim for us here, then may some truth be opened to our minds that shall cause us to look still higher; but to sit down and "*rest*," as many speak of doing in Heaven, would be no heaven for me. Him who has loved *work* and *activity* here, will look for activity there, and only be *satisfied* when he attains to it; and I will close this wandering paragraph by adding, that I as

fully believe that those *only* will attain to this happiness there, who have learned to love and serve God here, by doing good to his fellow-creatures because it was *right*, as I believe in my present existence; and that those who do not *begin the work here*, will become as wretched and miserable, in the future world, as the others will be happy—the very nature of things, enlightened by God's Word, perfectly satisfies me of the correctness of these positions. And I have thought it not amiss to make this record for the satisfaction of those who may read this Work, to know our belief and hopes, as the line of thought was introduced by our quotation from Dr. Gunn. If any shall think that I shall be disappointed in glorious anticipations, I will only add that the Bible teaches me that “eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that *love Him*. But God hath revealed them into us by His Spirit; for the Spirit searcheth all things, yea the deep things of God.” If it hath not entered into man's heart to conceive the glorious things prepared for those “that love Him,” I have no doubt that it will be ten thousand times more extatic and glorious than even my poor expectations. “So mote it be.”

But to return to one of the ills of this life, Dropsy, I think but little more need be said. With the articles generally recommended, together with the *specifics*, *Indian hemp*, and *ashes of the common grape vine*, and their accompanying helps, *cathartics*, *sweating*, *liniment*, *tonics*, *etc.*, I feel that very much suffering may hereafter be avoided, in this disease.

It is claimed also, that the inner bark of white, or common sweet elder, 3 single handfuls steeped, or boiled, rather, in milk, 1 pt., and water, 1 pt. to 1 pt. and half of the quantity drank, night and morning, daily, has cured many cases of Dropsy. I suppose, of course, that the treatment should embrace all of the first mentioned, or ordinary treatment, as cathartics, bathing, sponging, etc., but I have no knowledge of its success; yet it is simple, and easily tried and can not result in anything worse than delay, or loss of time, in giving it a trial.

Cayenne pepper, horse-radish, mustard, porter, ale, wine, or gin bitters, etc., may be as freely used with a nourishing animal diet, as the different constitutions of the patients will allow, in treating Dropsy.

The question may be asked, here, why do not the “*alopaths*,” or as they prefer to call themselves, the “*regulars*” cure Dropsy? The answer is as plain and as simple as the question, because they *regularly* ignore, or reject all medicines that do not come *through their books*! If they would take the remedies herein described, and use them, they could cure as well as the American, or *reformed* practitioner. Let every man who is going to practice medicine, obtain the books of all the different practices, and read them, and select, and use the remedies that *experience* shows to have cured many times, and he will then as *regularly* cure, as he now “*taps*,” and allows the patient to die.

DYSENTERY—Bloody-Flux.—The last and most common name sufficiently indicates the nature of this disease. It is an inflammation of the mucus, or lining membrane of the large and terminal portion of the intestines, called the *colon* and *rectum*. Some think this disease is contagious (catching), it is certainly sometimes epidemic (effects many people in a neighborhood at the same time). All

ages are subject to it, and all seasons, but the Fall, is the more common season.

Cause.—Anything that obstructs the healthy action of the skin, checking perspiration at a time when this disease is prevalent, or likely to prevail, will be the more likely to settle upon this portion of the intestines which is now pre-disposed to disease, which throws the morbid, or unhealthy, worn-out matters which should be thrown off by the skin, upon the intestines, thereby irritating and inflaming them, as found in this disease. Damp and chilly night air, wet clothes, unwholesome food, sudden change of weather, and some think an over amount of acid in the secretion from the liver, from perhaps, frequent eating of unripe, or acid fruits, or vegetables, over drinking of cold, perhaps, ice-water when heated, etc.

Symptoms.—There is commonly a loss of appetite, costiveness, and a sense of chilliness and shivering as if going to have ague, or fever, heat of the skin with dryness of the same, more frequent pulse than usual, with a beginning of pain in the lower intestines followed with griping and desire to evacuate the bowels, but probably passing only a small amount of frothy, and perhaps more, or less bloody mucus, or it may be a more watery passage also appearing to be mixed with more, or less blood. If there is any fecal, or food mixtures with the passages, they are in hard lumps, but more generally without them, showing that the upper bowels, stomach, and liver, are not in a healthy condition. Quite frequently, from the straining in endeavoring to effect the passages, the rectum may be forced down, and protrude externally more, or less, adding much to the suffering of the patient. More, or less fever is also likely to attend the disease, and add to its danger, although this may subside, still leaving the diseased condition of the bowels in a more chronic form. The passages are often very foetid, and should be at once removed from the room if the patient is not able to go out for that purpose, and in bad cases they had better not take this labor upon themselves, but should be kept quiet.

Treatment.—Although I stand alone in this, knowing that the secretions of the skin are very deficient, I always give the *spirit-bath*, from 10 to 15 minutes, only, followed with the *cayenne* and *whisky*, sponging, and dry and hard *rubbing* of the surface, to restore and excite the skin to a healthy action, thereby drawing the blood from the intestines; the sponging and friction to be repeated daily, but the bath not more than once a week; mucilaginous injections, as flax-seed tea, or slippery-elm tea, introduced with a large syringe, while warm, and to be repeated as the case demands, and if considerable pain and griping exist, put in a tea-spoonful of laudanum to a pt. of the injection. And at the same time, although active, or severe purgatives are not called for, yet, a mild one, that is calculated to gently move the stomach and upper intestines to action, and at the same time to neutralize the acidity of the bile, is almost imperatively called for, and will be found in the *neutralizing cathartic cordial*, in comparison to which, says Dr. Beach, "all other medicines sink into insignificance; it has a specific effect which no other known agent possesses, and it seems as though the Author of Nature had designed it for this and similar diseases."

If the cathartic cordial is not on hand, as it ought to be, the following may be used: Best Turkey rheubarb root, saleratus, peppermint plant,

and cinnamon bark, of each, $\frac{1}{2}$ oz. Pulverize all of these articles separately, then mix thoroughly, and to a full, or rounding, table-spoonful of this mixture pour on boiling water, $\frac{1}{2}$ pt., and steep well, strain and press out, and sweeten with white sugar to be palatable, and, if there is no fever, or but little, add best brandy, 2 table-spoonfuls—if much fever leave out the brandy.

DOSE.—A table-spoonful of this must be given every hour, until you are satisfied that the upper bowels have moved, by the presence of fecal, or food matter with the passages; after this only 3, or 4 times daily will be needed to correct the tone of the system, changing the feter, relieving the griping and tenesmus, or pain in the rectum, and producing a healthy action throughout the whole intestines.

Of course the injections must be faithfully attended to as the pain and restlessness of the bowels demand; and to keep up a little tendency to the skin, give any of the *diaphoretic*, or *sweating* remedies, in the form of teas, from time to time, and if no sleep can be enjoyed, a little laudanum, 10 to 30 drops as the pain demands, may be put into the teas 2, or 3 times, as required. In case of considerable fever, sponge the surface as often as needed by warm water that has a little sal-soda in it, or some weak lye, made by putting some hot water into a handful, or two of ashes, and strained off, or with bay-rum, or other spirits, as the conveniences and circumstances of the patient will allow. It is not desired to get up, or to keep up any considerable perspiration, only a slight tendency that way, which enables us to know that the skin is able and willing to do its share of the regular work. And if, at any time, there is any very considerable pain in the bowels, let hot fomentations of hops, tansey, hoarhound, or any similar bitter herbs, be applied and changed as often and as long as pain demands it, using the other remedies faithfully as recommended; and if much drink is craved, let it be of a mucilaginous kind, as slippery-elm bark, flax-seed tea, sweetened, or sassafras bark, and pith of small sassafras rods, or limbs.

And, if in any case, the passages should become putrid, or extremely offensive, let yeast, a table-spoonful, or two be added to a drink of boiled milk, properly sweetened, and given every 2, or 3 hours, or oftener, and also injected freely, in milk, or slippery-elm, or flax-seed tea, as you have convenient, holding fast to the neutralizing cathartic, or its substitute, as given above; and but little fears need be had but what the termination will be speedily favorable if the symptoms are watched with ordinary care, and met immediately by the proper remedy, as above given. Many very bad cases have been cured by this course, even after considerable abuses with old-fashioned remedies.

But, if any considerable head-ache should at any time be experienced in this disease, the *acetate of potash* as directed under the head of DIURETICS, may be given sufficiently to increase the flow of urine for a day, or so at a time, according to the increase, or lessening of this Symptom.

Comfrey Root, is very useful in Dysentery, diarrhea, and cough, and in all pulmonary affections, leucorrhœa, and female debility. It may be boiled in water, or wine, or made into a sirup.

DOSE.—One to 4 table-spoonfuls 3, or 4 times daily. An injection of the mucilage in Dysentery, or diarrhea, made with water, will be found

very valuable. And the bruised root is used on bruises, sore throats, ulcers, etc., with great satisfaction.

Castor-Oil and paregoric, sweet-oil and laudanum, burnt brandy, burnt rheubarb, leptandrin, podophyllin, morphine, etc., etc., have all been highly extolled in Dysentery, but my experience, and the experience of many others, satisfies me that it is not at all necessary to multiply remedies, beyond those already given.

The Diet should be of the mildest and most nourishing kind, as boiled milk with a bit of flour thickening, making a kind of porridge, or thickened-milk, rice boiled in milk, or rice flour, if it can be got scalded with water then boiled in milk, or boiled milk, with very light and nice bread crumbled in it, of a day, or two old, etc., etc., until the strength begins to mend, then avoid everything likely to produce a relapse, which is almost always worse than the first attack.

Dysentery in Small Children.—Prof. Scudder reports his success with Dysentery of Small Children. His success is so uniform that it is only necessary to give 1 case to have a general understanding of the treatment. I quote from his "Case Book," Case No. XI.—"*Dysentery.*—G—, set eight months, had Diarrhea commencing in the morning, but in the evening the stools became small and bloody, attended with tenesmus. Pulse 130 and hard, surface hot, very restless, nausea with occasional retching. Discharges about every 10 minutes. Child regarded by the parents as in a dangerous condition, one having died in the same house from the same disease the week previous.

"Prescribed at 11 p. m.: Tinct. of aconite, 5 drops; tinct. of ipecac, 15 drops; water, 4 ozs. |

"Dose.—A tea-spoonful every hour.

"No Dysenteric discharges after 4 A. M., next morning, and the child was well the second day."

The ipecac is believed to be certain, or *specific* in its action upon mucus surfaces, and the internal surface of the intestines is mucus, and the aconite lowers the circulation, and thus reduces fever. A child 2 to 4 years old might be given twice the amount. An adult might take a table-spoonful as a dose, of the above strength, or multiply the drops by 4, then take the same dose—a tea-spoonful.

DYSPEPSIA—Indigestion.—The common, or last name, given, sufficiently indicates the location and nature of Dypepsia. Although the stomach is the principal seat of this disease, yet the whole alimentary canal, from mouth to rectum, including the liver, are more, or less complicated and affected, according to the severity of the disease, or the length of time it may have existed.

Cause.—It appears strange to the Dyspeptic that some persons, those in good general health, sound digestive organs, and whose labor, or business gives them plenty of out-door exercise, and the organization of whose minds allow them to take the world easy, can eat almost every kind of food in more than ordinary quantities; while *they*, poor Dyspeptics, can scarcely eat the most digestible food, without the greatest distress.

The *leading* Cause of Dyspepsia, is undoubtedly, over-eating at, and between meals, finishing the day, perhaps, with an oyster supper, or a festival supper, for some *benevolent* object (which of course, must be patronized because *benevolent* in its object), drinking more ice-cold lemonade and eating more ice-cream, with all the rest, than ought to be eaten in a month, eating highly-seasoned and highly-dressed meats.

hot-bread, pastry, and spices; drinking 2, or 3 cups of strong coffee, or tea; swallowing the food only half chewed, or rather rinsing it down with the tea, or coffee; excitement of the passions; sedentary habits (from *sedent*, to sit); want of proper out-of-door exercise, etc., etc., so much so the only wonder to me is, that there is not much more Dyspepsia than there is.

But for the better understanding of *indigestion*, or *Dyspepsia*, it will I trust, not be considered out of place, or improper in this connection to give a description of

Digestion.—On the reception of food into a healthy stomach, that organ at once begins to pour out what is called the *gastric juice* (from the Greek, *gastros*, stomach, hence, *gastritis*, inflammation of the stomach), by which it is converted into a soft, grayish mass called *chyme*. The contractile powers of the stomach expels the *chyme*, from time to time, during the digestive process into the *duodenum* (from *duodeni*, meaning twelve, or about 12 inches long), which is properly the first part of the intestines. Here it receives the *bile* from the liver, and the *pancreatic juice* from the pancreas (this word is also from the Greek, signifying flesh, or all flesh. It is situated behind the stomach, and in the lower animals is called the *sweet-bread*). These two fluids acting together upon the *chyme*, as it is poured out from the stomach, converts the appropriate portions of it into *chyle*, a *milky*, or white appearing fluid, and leaves a *yellowish* residue, or sediment, to pass along the intestines. The *chyle* is sucked, or taken up by a class of small tubes, or absorbents, which are thickly spread over the inner surface of the intestines, which are more properly called *lacteals* (from *lac*, milk), because of their white, or milky appearance when carrying away the *chyle*. These absorbents, or *lacteals* all empty their contents into the *thoracic duct*, (from *thorax*, a chest, as the upper portion of the body is called). It runs up along the spine, and empties the *chyle* into the left *sub-clavian vein*, just under the clavicle, or collar-bone, (from *sub*, under, and *clavis*, a key, as the *clavicle*, collar-bone, acts as a key between the breast-bone and the shoulder-blade), near the point where the *sub-clavian vein* reaches the right side of the heart, thus mixing the *chyle* with the venous blood, just as it enters the heart.

The *chyle* is thus emptied into the venous blood first, because it is necessary that it pass through the *lungs*, for the purpose of receiving the oxygen of the air with which it is there mingled by the respiration, or breathing, the same as the venous blood requires, by which they are together changed into red, or arterial blood, and are now ready to be sent by the heart, through the arteries, to the whole system, for its building up and general support. This change of the *chyle* into blood by its passage through the lungs is called *sanguification*, from *sanguis*, blood, and *facere*, to make, literally with us, making blood, which it is thus seen is made by each organ furnishing its share of secretion. To begin with, the salivary glands of the mouth secrete the *saliva* to moisten the food; the stomach secretes the *gastric juice*; the liver secretes the *bile*; the pancreas secretes the *pancreatic juice*; the kidneys secrete the *urine*; the skin secretes the *insensible perspiration*; and the spleen is supposed to furnish some important help in the matter of support to the system; all these as a whole, are called the *secretions*, and the special work of each organ, in furnishing these secretions, is called the *function* of that organ. This

will, we think, enable any one the better to understand the work of Digestion, and of the general system.

The yellow matter left in the *duodenum*, above mentioned, by the separation of the *chyle* from the chyme, is considered to furnish no nourishment to the system, but is looked upon as the offal, refuse, or waste; but, as it passes along the whole length of the intestinal tube, or canal, it undoubtedly has more, or less of virtue, or value absorbed from it, for some beneficial purposes to the system, at least, its appearance is considerably changed before it is passed off from the body as *feces*, or dregs of the food. Yet, it may be that the change arises more from the emptying into the intestinal canal of other waste from different portions of the system, by a class of absorbents of a somewhat similar character to the *lacteals*; only they are for carrying out of, instead of into the blood; but still there is another reason why I believe there are absorbents to take up from the intestines and pour into the blood, *i. e.*, this, in ulceration of the bowels, or any disease by which putrid, or especially bad matter is retained an undue time in the bowels, the blood becomes so much the more viciated, and the disease the more dangerous; hence the necessity for such medicines as shall mildly and gently empty the intestines in all such cases, instead of the Homœopathic plan of *no cathartics*. In other words, in my opinion, after food has given all the support to the system that it contains, the sooner it is then discharged, the better; at least, in ordinary circumstances, to cultivate a daily passage, which, in *Dyspepsia*, is almost absolutely necessary.

Fortunately for the world, but as it would seem, unfortunately for Alexis St. Martin, a French Canadian, of only 18 years of age, while a soldier in the U. S. Army, and in service at Macinaw, accidentally received a gun-shot wound on the 6th of June, 1822, in the left side, blowing off the skin and flesh the size of a man's hand, breaking some of the ribs, tearing the lower part of the left lung and penetrating the stomach, tearing and injuring the parts very much, as it was a buck shot charge, it made a very bad wound; and Dr. Beaumont, the Surgeon in charge, who gives the account, afterwards instituted a plan of experimenting upon the principles of Digestion, from which very decided advantages may be derived; as it will be seen from his explanation that it healed up leaving an opening from which *gastric juice*, or food could be taken, and the *process* of Digestion could be watched. He says: "On the 5th day sloughing took place; *portions of the lung, bones, and the stomach separated, leaving an opening in the latter large enough to admit the whole length of the finger into its cavity, and also a passage into his chest half as large as his fist. After one year, the wound closed, leaving the orifice into the stomach, which remained open, two and a half inches in circumference.* For some months the food could be retained, only by wearing a compress; but finally a small fold of the villous" (velvety projections as seen in the stomach of the cow, as in tripe) "coat of the stomach began to appear, which gradually increased till it filled the aperture" (opening) "and acted as a valve, so as to completely prevent any efflux" (flowing out) "from within, but to admit of being easily pushed back by the finger from without."

Dr. Beaumont, seeing the advantages that might be taken of the condition of St. Martin, for the benefit of the world, by experimenting upon him, and traveling and exhibiting him to the medical

classes of the various colleges, and publishing a book giving the experiments, made an arrangement with him, at an expense of about \$2,000, and retained about him for that purpose as long as it was necessary to accomplish his object.

And, I might properly add here, before giving the conclusions arrived at by the experiments of Dr. Beaumont upon the exposed stomach of St. Martin, that they were still further confirmed, about 20 years after, by a visit to New York, from Montreal, where he took up his residence, after leaving the service, or rather the experimenting of Dr. Beaumont. The visit was made for the purpose of adding something to his own funds, by visiting the colleges, and scientific men there, as he had made his living by manual labor, supporting a large family. The recent examinations, did not materially controvert, or change the conclusions previously arrived at. The last visit, and experiments were made under the care of a Dr. Buntine, as will be seen in No. 11, under this head.

The conclusions arrived at by Dr. Beaumont from the experiments, above spoken of, have been so considerably condensed yet so fully given in the plainest language and so fully corresponding with my own views, by Dr. Gunn, in his new Domestic Physician, that I will quote from him, instead of attempting to further condense them. He says:

"By the experiments made by Dr. Beaumont, we are informed that the perfect identity (sameness) of *Digestion with chemical solution* has been established; the gastric juice removed and put into a phial, was just as successful in reducing food to chyle, as when left to operate in the stomach. For as Digestion essentially is a solution of the aliment" (food) "in the gastric juice, it follows that whatever promotes the free and healthy secretion of that juice, will favor Digestion, and, on the contrary, whatever impedes, or impairs it, will impair, or impede the Digestive process. It thus becomes important to ascertain the conditions under which it is secreted most freely and healthily.

"The circumstances under which Dr. Beaumont obtained gastric juice, of healthy quality and in large quantity, from St. Martin's stomach, and which consequently may be considered as most favorable to Digestion, were moderate and regular living, due exercise in the open air, cheerful activity of mind and feeling, and dry, bracing weather. After excess, on the contrary, in eating, or drinking, fatigue, passion, temporary irritation of disease, or in damp weather, the secretion was impaired both in quality and quantity.

"If, as there is every reason to believe, the gastric juice, or secretion, is naturally proportioned to the real wants of the system at the time, it is very easy to understand why it is most copious after moderate and regular living, and least so after intemperance.

"When a moderate meal is eaten, a sufficiency of juice is speedily secreted for its solution, Digestion goes on rapidly, the coats of the stomach retain their usual healthy appearance, and after an interval of repose" (remember this all you who are always eating large meals, and also between meals—the stomach must have rest, as well as man, or beast), "a fresh supply of juice is ready to be poured out, when wanted for the Digestion of the next meal. Of these facts Dr. Beaumont had ocular" (actual sight) "evidence. But, when food was taken in to excess, the portion left *undissolved*" (because only a proper proportion for a reasonable meal is supplied) "by the gastric juice, began to ferment, and acted as a local irritant, just as any other foreign

body would do, and produced an inflammatory action on the inner coats of the stomach, which necessarily interfered with the gastric secretion, and thereby impaired the power of Digesting when it otherwise would have done well.

"From the relation which Dr. B. believes to exist between the quantity of gastric juice, which the stomach *can secrete*, and the *actual wants* of the system at the time, it follows that the power of Digestion *varies considerably* under different circumstances, even in the same individual. In youth, for example, and during convalescence from illness, and after much exercise, when copious materials are required for both nutrition and growth, the gastric secretion seems to be very abundant, and hence the vigorous appetite, and easy Digestion of early life. But, after maturity, when the living fabric is complete in all its parts, and when the restless activity of youth is exchanged for the staid and comparatively sedentary pursuits of middle age, and when, therefore, no such abundance of nutritive materials are required, the secretion of gastric juice is much diminished in quantity, which is the chief cause of the proportionally diminished power of Digestion.

"Keeping this relation in mind, we ought, clearly, on the approach of maturity, to place ourselves in accordance with our altered needs, and diminish the quantity of food, more, or less, according to our labor, or more sedentary habits, as the case may be, adapting our mode of living to our sedentary habits, diminishing the quantity of food, in *due proportion between supply and expenditure*, which, alone, is compatible with the *continuance* of health. This precaution is, however, very generally neglected. Retaining a lively sense of the pleasures of a youthful constitution and Digestion, the grown man changes his *habits* but continues his *full meals*, and when he feels the accumulating weight of *excess* pressing more and more heavily upon him, instead of taking the *hint*, and restricting himself to what he *requires*, he begins to bemoan his *weakness of stomach*, and to wonder why he, who once *never felt* that he had a stomach, should now become a martyr to his complaints. From an extensive practice, I am confident that a large proportion of the severe Dyspeptic cases which occur, in what are considered regular-living men, on the approach of manhood, or between 20 and 40 years of age, are fairly attributed to this cause, *and might be avoided by the exercise of a rational foresight*, and I have known several who have suffered severely in this way for years, lament sincerely the ignorance which betrayed them into this error.

"There are many persons no doubt constitutionally, too devoted to *intemperance, in eating and drinking*, to be corrected by any such considerations" (all that can be done for such is to let them suffer the consequences, for, if the *cause of disease can not, or will not be removed*, but very little good can be done *in any case*); "but there are also many misled, less by force of appetite, than by ignorance, who may profit by this remark. The other conditions most influential in diminishing the gastric juice are *bodily fatigue, strong mental emotions, such as anger, and febrile excitement*. Hence the absolute necessity of avoiding *full meals* under such circumstances, and *never eating a second till the stomach has had time to recover from the labor of Digesting the one preceeding*; for it requires an interval of repose just as much as the muscles do.

"In attacks of fever, the coats of the stomach were often observed

by Dr. B. to present a somewhat dry and inflamed appearance, followed sometimes by an irruption of whitish vesicles" (small pimple-like elevations filled with fluid). "In this state, the gastric juice is generally sparingly secreted, and somewhat altered in quality. Hence the impaired power of Digestion, and the generally impaired appetite in fever, and the folly of giving *solid* food, which serves only to increase the irritation and impair still further, the already diminished gastric secretions.

"In many slight fits of indigestion, appearances of this kind presented themselves, and were easily removed by a short abstinence, and a little laxative medicine.

"Many persons who obviously live too freely, protest against the fact, because they feel no *immediate* inconvenience, either from the quantity of food, or from the stimulants" (liquors) "in which they habitually indulge, or, in other words, because they experience no pain, sickness, or headache, nothing perhaps, except slight fullness and oppression, which soon go off. *Observation and facts*, however, show that the conclusion drawn is *entirely false*, and that the amount of real injury is not felt at the moment, because, for a wise purpose, nature has deprived us of any consciousness either of the *existence* of, or *state* of the stomach during health. In accordance with this, Dr. B's experiments prove that extensive erythematic" (an unhealthy redness) "inflammation of the mucus coat of the stomach was of frequent occurrence in St. Martin, especially after excesses in *eating*, or *drinking*, even when no marked general symptoms was present to indicate its existence. Occasionally, febrile heat, nausea, headache, and thirst, were complained of, but not always. Had St. Martin's stomach, and its inflamed porches, not been visible to the eye, he too might have pleaded that his temporary excess did him no harm; but when they presented themselves in such legible characters, that Dr. B. could not miss seeing them, argument and supposition were at an end, and the broad fact could not be denied.

"These experiments, made upon himself, unintentionally by St. Martin, occasioned by fits of intemperance, show the effects of ardent spirits upon the coats of the stomach, and afford an instructive lesson to all who are willing to receive and enforce it, that nature is not to be outraged, and its functions disturbed by the use, or rather the abuse, of spirituous liquors, or by *eating to excess*, as it must be seen by my readers, to which I invite their attentive consideration.

"That the very acrid" (biting and corroding) "nature of the contents of the stomach, occasionally witnessed during the existence of the eruption, in the case of St. Martin, is a proof at once of the great disturbance in the function" (special action) "of the stomach, and of the necessity of avoiding everything but the mildest nourishment till health is restored. It is quite common, however, for a patient immediately after complaining of the acrimony of the last meal, to sit down to the table and eat as heartily of all sorts of food as if he was in perfect health. When this case fully and conclusively shows that it can not be done with impunity" (without punishment—the punishment must follow).

"The gastric juice is absolutely necessary to Digestion. It is caused to flow into the stomach as soon as *any* substance is introduced into that organ, whether it be a piece of leather, or a beef-steak. This juice contains an acid, and the more *indigestible* any article of

food is, the greater amount of sourness" (acidity—biting and harshness) "does the gastric juice contain; hence, when persons eat something that does not agree with them—not easily Digested—they say it *soured* on the stomach, or complain of heart-burn. The use to make of this knowledge is, that whatever article of food is followed by sour stomach, or heart-burn, should be avoided altogether, or taken in diminished quantity. But do not forget that different stomachs bear different things; and what disagrees with you to-day, may agree very well next week, or next month and the Dyspeptic stomach—like a spoiled child—must be humored, however fickle it may seem.

"Sometimes, however, shall I not say *nearly always, people eat so much that there is not gastric juice, or acid enough to Digest the food*; then it ferments, produces belching, colicky pains, sick stomach, sick headache, and the like—therefore, common vinegar, which has more of the properties of the gastric juice than any other substance" (lactic acid has since been found next to the gastric juice, in properties), "is often used to very great advantage to aid the Digestion of articles which are known to be difficult of Digestion, especially by persons who have weak stomachs."

After giving the foregoing conclusions deduced from, or arrived at from the experiments upon the exposed stomach of Alexis St. Martin, Dr. Gunn sums up what he considers "the principal and general causes of *Dyspepsia*" in such striking language, and yet so true to general facts, that I will give them, at the risk of repeating my previously expressed opinions; *for they must be sufficiently fixed in the minds of the people to be avoided, if it is at all desirable to enjoy health, or to restore it when lost through these causes.* He says:

"The principal and general causes of *Dyspepsia*, and the whole train of distressing complaints resulting therefrom, are produced from the present fashionable habits of luxury and intemperance both in eating and drinking, such as spirituous liquors, high-seasoned meats, excessive use of tea, and coffee, hot bread, spices, pastry, tobacco in every form, irregular evacuations, excessive venery" (sexual indulgencies), "swallowing food without chewing it sufficiently, over-loading the stomach, derangements of the liver and spleen" (the derangements of these organs arise from these very excesses), "want of exercise and pure air, the depressing passions, or great anxiety of the mind, and whatever has a tendency to debilitate the lining membrane of the stomach, so as to prevent it from the healthy performance of its functions" (digestive powers).

Symptoms.—The Symptoms in *Dyspepsia* vary according to the stage of the disease, or rather the extent of the irritability of the stomach. At first, the appetite will vary, sometimes being ravenous, but, more generally weak, or not desiring food at all. On eating, there will be distension, from accumulating gases, uneasiness, windy and acid eructations, and colicky pains also, according to the disturbance, and the amount eaten; the mind languid and irritable; white fur on the tongue; constipation generally, with a very vivid and striking knowledge that you have a stomach, and that so far as *feelings* are concerned, you wish you *had not*, especially so if you have considerably *overeaten*. Occasionally there may be looseness of the bowels, instead of constipation, showing the *irregularity* of the system; and as the disease progresses, the stomach becomes tender to the touch, and the mind more gloomy and foreboding of evil conse-

quences. In the times of looseness of the bowels, it will be noticed that pieces of improperly masticated food pass off without being dissolved by the gastric juice, which is either wanting, or not of a healthy character. The person finally becomes poor in flesh, countenance becomes haggard and has a distressing appearance; the skin is shriveled and harsh to the feel; and the surface and extremities are almost constantly cold and chilly, and life becomes too great a burden to be borne by some; hence, *suicide* is often the end. While, on the other hand, if the stomach and the general system is in a healthy condition, and a person takes a regular and reasonable meal, they soon feel a genial sense of support and supply, with just a sense of pleasant fullness, in place of the previous hunger and emptiness felt before the meal; and the exhaustion felt from the labor and exercise gives place to a healthy vigor, the whole system glowing with renewed strength and animation; the pulse becomes a little fuller, stronger, and a little more frequent; the nervous system is more calm, and often inclined to repose, or to a short nap, from which if taken, one arises with still greater renewed vigor; the skin is a little warmer from the quicker passage of the invigorated blood; and the mind fully in sympathy with the body, feels a renewed hilarity from the strengthened and invigorated blood as it flows through the brain, exciting it to its fullest capacities of power and strength for renewed mental, or bodily labor; in fact the whole being, body and mind, are ready for a new race. Not so with the *Dyspeptic*—the difference will be realized more readily by again reading the *Symptoms*, as given above.

Treatment.—Persons of *good common sense*, after carefully reading and fully *Digesting*, in the mind, all that has been said, above, on *indigestion*, its *causes and symptoms*, and, who are not already confirmed *Dyspeptics*, can see at a glance, what the Treatment is, or should be for them—*stop all over-indulgence*, and for a time, at least, eat *short* of a full meal, take proper exercise, etc., and they will get well without any medicine at all; for there is a principle of restorative power in the system that is better than any medicine in diseases where too great, or too long a continued departure has not been made from the normal, or healthy condition.

At least all that would be of special value in the line of Treatment would be bathing, or sponging the surface, followed by friction; and some stimulation to the surface, as with *cayenne and spirits*, or considerable friction with a good brush, every night, for such a time as returns the blood to the surface, by the aid of the exercise, and the choice of such diet as will aid to remove the costiveness, and restore the healthy tone of the stomach—remembering that so long as any overeating, or drinking is done, or any excesses indulged in, just so long you will have the *Dyspepsia*, no matter what the Treatment. This leaves it entirely optional with those who are not yet confirmed *Dyspeptics*, to *have it, or not*, just as suits them best—if good victuals and excesses are better than health, I, at least, have no right to complain; but they will not remain long together.

But, in More Advanced Cases, the Treatment must be *tonic, restorative, stimulative, and alterative to the secretions*, which will invigorate the stomach, and blood, and, through them, the whole system; and for the purpose of giving tone to the stomach, correcting acidity,

and producing healthy secretions, if overeating, and all other excesses are abandoned, will be found very successful

1. **Alterative, Stimulant, and Restorative Tonic.**—Take gum myrrh, columbo, gentian, and rheubarb roots, cubeb pepper, Peruvian bark, of each, 1 oz.; alcohol of 76 per cent., 1 qt.

Bruise, or grind all the articles, and mix with the alcohol, and shake daily, for a week, when it may be used; or a druggist can percolate and have it ready in 48 hours; or it can be steeped in a closely covered, small tin pail, or stew dish, and be ready in 1 day, by leaving it upon the dregs.

Dose.—A tea-spoonful in a little water, tea, or coffee, as preferred, 15, or 20 minutes only before each meal.

2. **A Three-Grain Pill** of sesqui-oxide of iron, which druggists will make for you, should be taken, at the same time, with the alterative, stimulant, and restorative tonic, with which it forms a very valuable part.

3. **And**, if there is *obstinate costiveness* there may be added to the above *tonic bitters*, aloes, 1 dr., or rheubarb $\frac{1}{2}$ oz. additional; but I rather prefer the aloes; and in this case of severe costiveness, half of the cubeb pepper might be omitted until the costiveness is overcome.

4. **If there** is considerable sourness of the stomach, or raising of wind, or tasting the food in the eructations, or belchings, or heart-burn, take a $\frac{1}{2}$ tea-spoonful of super-carbonate of soda in a table-spoonful, or two of water.

In cases where Dyspepsia has existed for some time, so that a considerable debility of the stomach and perhaps the whole system has taken place, although the foregoing *tonic*, before meals, will enable the Digestion to proceed favorably for an *hour*, or *two*, yet it will perhaps fail, and a tightness across the chest will be experienced, with a little pain, or uneasiness, especially in cases where an undue amount is *eaten*, or of *coffee*, or *tea* is drank, with the acid eructations again beginning, which the soda does not fully allay, the following *aromatic tonic* must be resorted to:

5. **Aromatic Tonic.**—Peruvian bark, canella alba, Virginia snake root, chamomile flowers and valerian root, of each, 1 oz.; rasped quassia $1\frac{1}{2}$ ozs.; cardamon seeds, $\frac{1}{2}$ oz.; alcohol 76 per cent., 1 qt.

All to be bruised, mixed and treated the same as the alterative tonic, above, and *dose* the same, but this may be repeated after an hour, or so, if the first dose does not carry you safely over the meal, which it generally will if only a moderate meal of easily-digested food has been eaten. The first dose will be taken about 2 hours ordinarily, after the meal. But it must not be taken any longer than uneasiness, or indigestion manifests itself after eating. It should, however, be on hand, in case of need.

Perseverance and watchful care with this Treatment will be rewarded with success, provided, too long a departure from a healthful course of living has not been indulged in. You may desire to know what I mean by *perseverance*. Simply this, if a case has been a year, or two in being ripened into Dyspepsia, do not expect to be cured in a month, nor two, unless *every improper indulgence is absolutely and decidedly abandoned*, and then, in some cases it must take 2 or 3 months, or more, according to *carefulness* in avoiding errors, and *judgment* in using the medicines.

6. Dr. Edward Cone, formerly of Dresden, and latterly of Columbus, O., with whom we were for many years acquainted, and have known his reliability, in a small work published by him entitled a "Synopsis of the Treatment of Fever, Indigestion, Neuralgia, and Tubercular Diseases," gives an account of a form of indigestion wherein there is great relaxation of the stomach, and as I think this our "Second Receipt Book," may have a circulation sufficiently extended among the people, as to bring it in contact with the disease in that form, although I have not had a case of this form to come under my own observation, I feel constrained to give our readers the benefit of the knowledge of a man of so extended an experience as I know Dr. Cone to be. And as his concluding remarks on the subject of Dyspepsia, generally, are so in agreement with what we have before said, I shall quote from him, both to substantiate my own position, and to give the other form of the disease, in which I have not had an opportunity for observation. He says:

"There is one form of indigestion that we beg leave to detail the symptoms of, as we have not seen a sufficient description of it to enable a person to detect it. We allude to relaxation of the stomach—it may occur—and we have seen it in persons of all ages, but it occurs most frequently in elderly persons; its characteristics are great distension of the stomach—so much so that the organ can be felt occupying the whole upper portion of the abdomen, pressing the liver on the right and the spleen on the left side, upwards against the diaphragm, and extending downwards sometimes to a considerable distance below the navel, presenting to the touch when it is distended as it is most of the time to a considerable extent, a large, firm, irregular globe, that will bear pretty firm pressure without much pain. We have not known any of these cases to be attended with much nausea, or vomiting; the appetite is generally capricious, and the oppression and distress in the region of the stomach does not exceed that of many common cases of Dyspepsia; the bowels are generally torpid, but not always; the kidneys generally secrete a small quantity of imperfect urine; but the great source of difficulty is in the chest, heart and brain—the distension is so great as to push the diaphragm up, and press so firmly on the lungs and heart as to produce the greatest possible difficulty in breathing—the patient is wholly unable to make a deep inspiration; is harrassed with a short, half suppressed, stitching cough; he is unable to lie down at all in many instances, and in others he can remain in the recumbent position only for a short time, and there is generally an entire inability to lie on one side. These cases are generally supposed to be dropsy of the chest, dropsy of the sack of the heart, enlargement of the heart, or ossification of the valves of the heart, abscess, asthma, etc. The pulse is generally very irregular, but almost always intermitting, sometimes running several beats pretty regularly, then an entire interval for the space of one, or two pulsations; the jugulars will become turgid, the countenance flushed and livid, when the heart will contract spasmodically, and there will be one, or two full strong pulsations, then there will be a number of small feeble pulsations again. We have never observed the small feeble pulsations to be less than 7, or more than 18; but when they are 12, or, as in one instance, 18, the circulation is very much embarrassed, and the breathing is so difficult that the patient has a constant sense of suffocation, and even in the Winter

season has the windows and doors open, and requires to be fanned most assiduously to keep life in him. In some instances the brain is not much disturbed, and in others we have seen, from the impeded condition of the venous circulation, many of the symptoms of apoplexy, and in one instance the attending physicians most strenuously opposed our stimulating and tonic treatment, on the ground that the patient was threatened with apoplexy. This patient, though 72 years old, recovered perfectly. But in other instances we have seen the most settled melancholy, and have known strong-minded men to say that their life was a burthen, that they could not bear, and that they coveted death so ardently that they feared they would commit suicide; and we have treated cases where attempts had been made at self-destruction, and have frequently witnessed all the vagaries of the hypochondriac in these cases. There is generally more or less dropsical effusion in these cases; generally the lower extremities are more, or less dropsical; but we have seen cases of universal dropsy in this form of disease so much so that the lower extremities have burst open from the knee to the instep, and water constantly ooze from the fissures. This condition, of which we have only given an imperfect sketch, is one of most intense suffering. Though there is not a great deal of acute pain, it is one of intense anxiety, with the greatest oppression of all the vital powers, with a constant sense of impending danger, with suffering depicted in every feature.

"Indigestion is generally supposed to depend on a variety of causes, as inflammation of the mucous, or lining membrane (either acute, sub-acute, or chronic) of the stomach, organic, or functional disease, as inflammation, schirrous, or torpor of the liver, torpor, irritation, congestion, or inflammation of the small, or large bowels, and so on. But the real cause of indigestion is indicated by the remedies that operate most efficiently in its cure, and these are gently stimulating tonics combined with those articles that will stimulate healthy secretions, the real state of all the organs, either directly, or indirectly concerned in the process of digestion being that weakness, debility, or feebleness. Hence the torpor and general inability to perform their respective offices. And the cause of indigestion in a majority of cases (where there is not cancer, or other structural disease of the stomach) is, in the first place, over-taxing the digestive ability of the stomach (which, of course, is relative, for what would be a heavy task for one stomach, would be light work for another) either by indigestible food or imposing on it a watery, vapid and unnutritious diet, which though the stomach may reduce to chyme, and thus do its part, yet when the process is completed, there is no healthy chyle, and the system is not nourished. Such crude diet gives the stomach double, or treble labor to manage it, yet it gives but little, or nothing on the score of nourishment back to the stomach in return. Hence the stomach, and consequently the whole system, lose their tone and vigor; and when thus debilitated, they must be subjected to some stimulus, or invigorating influence, or their health will not be restored. To be sure, some will say, correct all the vices and adverse influences to which the stomach has been subjected, and give it nothing but healthy influences, and it will recover its wonted vigor and health. This will do if there be but temporary derangement, and a very considerable degree of vigor remain; but if the stomach be very much enfeebled it will not regain its tone without the aid of

judicious remedial influences. Just as reasonably expect an impoverished and worn out soil to become fertile and productive without any extraneous influences, as to expect the stomach to recuperate its lost energy without aid, or assistance.

"The Treatment for indigestion, as we have said elsewhere, should be tonic, restorative, stimulating and alterative to the glandular secretions, and calculated to invigorate the stomach, blood, and the whole system.

"Treatment.—We now come to the Treatment of that form of indigestion that we have denominated relaxation and distension of the stomach. This condition is clearly the result of a want of nourishment of the system, producing the greatest degree of laxity, or relaxation of the muscular fibres of the stomach, and as it is almost entirely unable to digest food, most of what is received into it enters into their chemical affinities, gas is extricated, and as the stomach is so very feeble and flabby, it yields to the distension of gas and fluids, instead of contracting and throwing them off, either by vomiting, or eructation. The indication for cure in these cases we think to be very plain, and thus far to us they have been entirely satisfactory. Our Treatment is, very actively stimulating tonic and strengthening; we entirely discard the semblance of apoplexy, or any symptom of inflammatory action, and push a stimulating Treatment thoroughly on our patient, until we get the stomach aroused to action and able to digest at least animal food. For this purpose we prescribe the annexed:

"Take gum aloes, rhubarb, best capsicum, of each 2 drs.; white snake root, Virginia snake root (serpentaria), valerian root, cannella alba bark, rasped quassia, of each $\frac{1}{2}$ oz.

"Put the whole into a bottle, and add one quart of best rye whisky, if to be had, 20 per cent above proof, or a quart of best French brandy.

"Dose.—From 1 to 2 tea-spoonfuls three times a day, just before meals.

"The patient should use as little vegetable diet as possible, and as much animal as he can relish; such as broiled ham, broiled beef-steak, roast beef, or mutton, soft boiled eggs, or the muscular parts of game, or most kinds of fowl; he can take a moderate share of stale bread, or of hot, mealy, Irish potatoes: but in most instances anything that contains much starch will enter into fermentation, and result in injury, and we often quaintly remark to our patients, in reply to the inquiry, "what can I eat?" "Eat, sir? why, sir, live like a dog—the nearer the better." Give the above medicine in tea-spoonful doses, until the bowels shall become open and regular, (and we believe we have never seen a case of this kind where they were not constipated), but be careful that you do not purge, and as soon as the bowels become regular, give this preparation in smaller doses, so as merely to secure one operation per day; and if there be no dropsical effusion we give nothing else but the above until the digestion is again established; but in most instances there is more, or less dropsical effusion, and generally a very sparse secretion of urine, and for the purpose of exciting the action of the absorbents and kidneys, we give the subjoined:

"Take dried squill root, pulverized gentian root, 2 drs. each; nitre, or salt-petre, $\frac{1}{2}$ oz.; sesqui-oxide iron, 1 oz.; cream of tartar, 3 ozs.

"Triturate (rub) the squills and nitre in a mortar, until the squill

is finely pulverized; then add the other articles, and mix all together; and the patient should take from one-third to two-thirds of an even tea-spoonful of this every four hours, or if it do not run off by the bowels, he can take a full tea-spoonful of it. Its operation on the kidneys and absorbents will be promoted by the patient drinking freely of a strong tea of the bark of the water-willow (*salix latifolia*). This course of Treatment should be continued until all dropsical appearances are subdued, when it should be discontinued, and the patient should commence the use of the compound of iron, prescribed in the Treatment of indigestion in general, and should use it as there directed, and should use the invigorating tincture, as occasion may require; or in place of the aromatic tincture, recommended in the Treatment of indigestion in general, to be used two or three hours after meals, and should continue the use of these two articles until his health is entirely restored, which will require from one to three months, or possibly longer. And permit me here to remark that bad and fearful as these cases appear to be, they seldom resist the above Treatment for any great length of time, unless the patient was in a dying state when put on the Treatment, when, of course, it would avail nothing.

"Where the bowels are obstinately costive, no other laxative should be used except rheubarb, as it possesses the very rare property of strengthening, or imparting tone to the action of the bowels; and if rheubarb should not be sufficient, in moderate doses, to move the bowels, or if the patient can not take it, the bowels should be moved by an injection administered every morning; for this purpose, warm, or even cold water, in considerable quantities, generally answers, if administered at the same time each day, and the best time, everything else being equal, is immediately after breakfast, each morning; but if it should not be sufficiently stimulating to produce the desired effect, add a table-spoonful of table salt to warm water, 1 pt., which should be used at the same time every day, until the bowels become more open, or quite regular, when simple water may again be used for this purpose. The patient should not let any business, pleasure, company, or anything else interfere with this duty, but it should be attended to with the most scrupulous exactness, and soon it will become a habit; and by indulging this habit constantly, he will be rid of one of the most unpleasant effects of indigestion, an effect too which tends to aggravate and continue a most distressing disease of which it is the result."

The Doctor's idea of eating "like a dog," of course, means to eat mostly animal food, in which case, however, the very greatest care must be taken to chew it well, and not to take more than the stomach can dispose of without distress, with the Treatment.

7. In Many Cases, where "everything else has been tried," as the remark is often made, simple apple cider, an ordinary $\frac{1}{2}$ pt., tumbler of it taken with each meal, in place of tea, or coffee, has worked wonders in the cure of Dyspepsia, when proper care was adopted in selection of food, and in not overeating. In my own case, I followed this plan for 3, or 4 months with the happiest results.

8. Dr. Halstead's old plan of treating Dyspepsia was once very popular, and has, at least, benefitted many cases. It was to draw in a full breath, then to strike with the open hands upon the stomach and abdomen, and kneading the bowels; in other words, taking exercise

without the trouble of walking, or labor; but a few cases of hemorrhage having occurred from the lungs, where consumption was also apparent, brought this practice into disrepute; but with care in such cases, it would be a valuable assistant to other treatment.

9. Dr. Beach informs us that a Mr. McChesney cured himself by the use of yellow-dock tea, made by boiling 1 oz. of the root in water, 1 qt. to 1½ pts., and taking one gill, night and morning. It purges gently, or regulates the bowels, and is alterative. He adds: It has cured other cases also.

Although I have already spoken of the necessity of attention to the diet, in avoiding all that is known to injure, and to eat only a moderate amount at a meal, yet, I feel constrained to add, that, there is no other disease in which these precautions are so absolutely necessary as in *Dyspepsia*, and if proper care is given to these precautions, and to the various treatments, and suggestions herein given, I have but little fear of our readers being troubled any considerable length of time with indigestion, especially, if they will observe this, my last rule: *Always leave the table while you have quite a desire for more food.*

10. Digestability of Different Kinds of Food Compared.—It is but proper in connection with the subject of *Dyspepsia*, and the experiments upon Alexis St. Martin, previously referred to, to give our readers the benefit of the Comparative Digestability of Food, as settled by those experiments, when his stomach was in a healthy condition, and when he was following his ordinary labor.

It was found that rice, soured tripe, and pig's-feet soured, each boiled, required only 1 hour for full and complete Digestion—eggs, whipped, raw; trout, and salmon, fresh, boiled, or fried; barley soup, and mellow sweet apples, raw, 1 h. 30 m.—venison steak, broiled, 1 h. 35 m.—brains, and sago, boiled, 1 h. 45 m.—tapioca, barley, or milk, boiled; beef's liver, fresh, broiled; eggs, fresh, raw; codfish, cured dry, boiled; mellow sour apples, raw, and cabbage, with vinegar, raw, (cold slaw) 2 h.—milk, uncooked, and fresh eggs, or wild turkey, roasted, 2 h. 15 m.—tame turkey, boiled, 2 h. 25 m.—gelatine, boiled, tame turkey, goose, or sucking pig, roasted; fresh lamb, broiled; meat and vegetables, hashed, warm; beans in the pod (string beans that are tender), boiled; sponge cake; parsnips, boiled; Irish potatoes, roasted, or baked, and raw cabbage head, 2 h. 30 m.—fricasseed (cut into pieces and fried) chicken; baked custard, or fresh beef, with salt only, boiled, 2 h. 45 m.—sour, and hard apples, raw, 2 h. 50 m.—fresh oysters, raw, 2 h. 55 m.—fresh eggs, soft boiled; striped bass, fresh, broiled; fresh beef, lean, rare, roasted; beef-steak, broiled; pork, recently salted, raw, or stewed; fresh mutton, broiled, or boiled; bean soup, or chicken soup; corn-cake, or apple dumpling, boiled, 3 h.—fresh oysters, roasted; pork-steak, broiled; recently salted pork, broiled; fresh mutton, roasted, and corn-bread, 3 h. 15 m.—fresh sausage, broiled, 3 h. 20 m.—fresh flounder, or fresh catfish, fried; fresh oysters, stewed; fresh beef, dry, roasted; fresh beef, boiled, eaten with mustard; old strong cheese, raw; mutton soup, or oyster soup; fresh baked wheat bread; flat turnips, or Irish potatoes, boiled; fresh eggs, hard boiled, or fresh eggs, fried, 3 h. 30 m.—green corn, beans, and beets, boiled, 3 h. 45 m.—salted salmon, boiled; fresh, lean beef, fried; fresh veal, broiled; fowls, or ducks, broiled, or roasted; beef soup, with vegetables, and bread, or heart, fried, 4 h.—salt beef, old and hard, boiled; recently salted pork, fried; soup from marrow-bones and

cartilage, 4 h. 15 m.—pork, recently salted, boiled; fresh veal, fried, or wild ducks, roasted, or cabbage, with vinegar, boiled, 4 h. 30 m.—pork, fat and lean, roasted, 5 h.

Notwithstanding these figures may be taken as a fair guide for those in health, who are also taking regular manual exercise, or working in the field, or shop, it must not be supposed that a dyspeptic stomach will Digest them in the same time; on the contrary they will find, quite often, that some of these articles may not Digest with them at all, or at least, give considerable uneasiness, flatulence, or pain, so that they will be compelled to feel their way; although it is believed that *much assistance* will be derived from the foregoing list, in making a selection of food, and in the manner in which it should be cooked, in order that it may be the easiest Digested.

11. The second experiments upon Alexis St. Martin, referred to before, as being given under the care of Dr. Buntine, in New York, were described by the *Scientific American*, and, as before remarked, differ but little with the first, so that the facts, as before set forth, are strengthened, nay, rather established. The description was given under the following head:

"12. Digestion—Observations Upon, from the Case of Alexis St. Martin, whose Stomach is Open to View.—Alexis St. Martin, noted in the *annals of medical science*, and whose case is described in all of our elementary works on physiology, as having, when a soldier, shot himself accidentally, in such a manner as to lay open his stomach, and *expose the entire process of Digestion to view*—upon which Dr. Beaumont made a valuable series of observations—has been in our city for a few weeks, lately, being brought from Montreal by Dr. Buntine. A number of our physicians have been experimenting upon him with different kinds of food, with the view to ascertain the *time required to Digest* them. A thermometer introduced into his stomach, through the opening, rose to 101° Fah.

"The carrot requires from 5 to 6 hours to Digest; while rare beef will thoroughly Digest in 1½ hours. Melted butter" (all butter is melted soon after reaching the stomach) "*will not Digest at all*, but floats about" (useless, if not injurious, especially in large quantities). "Lobster is easy of Digestion. Upon the application of the gastric juice to a piece of purple tissue paper, the color at once faded" (proving the gastric juice to be, at least, a little acid).

"In relation to the patient's health, Dr. Buntine observed that it had been uniformly excellent, having, since his recovery, from the first effects of the wound, supported a large family by his daily labor.

"The experiments do not differ materially from those made by Dr. Beaumont, 20 years ago. He is, at present, a little upwards of 50, of a spare frame; but, apparently, capable of considerable endurance. He is in excellent bodily health, and has much vivacity of manner. The opening in his stomach has had no injurious effect upon his health, nor has it prevented him from pursuing active and severe labors. If, however, he does not keep a compress to the aperture, in drinking water, or swallowing anything else, the whole contents of the stomach will pass out through the opening."

This case is certainly a very remarkable one. The healing of the wound, and then the system allowing, or tolerating such a tampering with, the thrusting of thermometers into the stomach, taking out food in all stages of Digestion, etc., etc., for so many years, is wonderful

indeed, abundantly showing the wisdom of the Creator, in so considering us that we may survive such terrible wounds as St. Martin received; but, even, after its healing up, that it should admit of such extensive experiments, whereby the whole human family might receive benefit, and instruction. As the Psalmist says. CXXXIX. 14: "I will praise thee; for I am fearfully and wonderfully made; marvelous are thy works, and that my soul knoweth right well."

13. **Lactic Acid and Pepsin**, it will be seen, below, are recommended by some in Dyspepsia, as it will be seen under the head of DIGESTION ASSISTED; but, as I have not had any experience in their use, I will first give you the manner in which it is used, or recommended to be used, as found in King's American Dispensatory. He says:

"It" (lactic acid) "is not employed in medicine in its uncombined state, but is used in the preparations of *lactate of iron*, and *lactate of quinia*. According to Pereira this acid was introduced into medicine by Magendie, who suggested its employment in *dyspepsia* and in *phosphatic urine*. It has recently been advised in gout.

"The Dose is from $\frac{1}{2}$ dr. to 2 drs., in sweetened water, or in the form of lozenges. It is better to take the acid during, or immediately following meals. Added to *Pepsin*, as prepared for therapeutical" (medicinal) "use, this acid renders it still more valuable as a solvent of the food received into the stomach." (Some of our readers may not be aware that *Pepsin* is made from the gastric juice of the ox, and is considered, by some, as a valuable assistant in the digestion of food for dyspeptics). "According to Bricheteau and Adrian, the false membranes of diphtheritis, croup, pseudo-membraneous bronchitis, etc., are soluble in a solution of *Lactic Acid*, forming a translucent" (admits rays of light through it, although not entirely clear) "liquid with almost imperceptible fragments of gelatiniform substance floating upon its surface and looking like froth; while acetic, citric, formic, and chromic acids have no such action" (formic acid formerly made from ants; chromic acid is made from the metal called chromium). "They recommend, in croup, diphtheria, etc., a gargle compound of *Lactic Acid*, 5 parts, water, 100 parts, and orange sirup, 30 parts," (it may be drops, or tea-spoonfuls, as any one chooses, to be taken internally in frequent doses of a tea-spoonful, or so), "in conjunction with the use of the same, without the sirup, in the form of spray thrown upon the affected parts," (in other words, by *inhalation*. It would undoubtedly be found good).

14. **"Digestion Assisted.**—No branch of chemistry has, of late years, made greater progress than that relating to the functions (special work of the different organs) of the human body. By the analysis of the blood we learn that it contains iron and soda; the brain yields phosphorous; the hair contains sulphur, etc. It is obvious, therefore, that these materials play a certain part in our well-being, and, that if they are not supplied to the frame by our daily food, the result will be a derangement of our organization, which will exhibit itself in the shape of a disease of some kind, or other.

Imperfect Digestion is one of the commonest diseases of a sedentary life. Now it has been shown by Mr. W. Bostic that *lactic acid* would *Assist Digestion* in those persons who suffer from dyspepsia; and experiments have confirmed the truth of his theory. No sooner was lactic acid administered to a patient troubled with dyspepsia, than the stomach resumed its labor. Further to illustrate this fact,

the process of Digestion can be exhibited out of the stomach. Pieces of butchers' meat, fowl, fish, etc., being put into a solution of *lactic acid*, and maintained at the temperature of the body, completely dissolved and become fluid, forming an artificial chyme ready for the absorbent vessels. Lactic acid takes its name from the Latin *lactis*, milk, because it is the acid found in sour milk. No wonder, then, that the highlanders of Scotland and North Wales, who drink buttermilk, are a hardy race of people, and never troubled with indigestion, for buttermilk is little else than a weak solution of lactic acid."—*Septimus Piesse*.

My father was a man who always claimed a good share of buttermilk at every churning as a drink, preferring it to tea, or coffee with his meals, and always enjoyed excellent health—whether the buttermilk made him healthy, or whether those only, who enjoy good health, can use it, the foregoing facts seem to settle with more than ordinary certainty. Between lactic acid and pepsin, or rather the *lactate of iron*, or *quinia*, and *pepsin*, using one, then the other, a week, or two, with great care in *never* overeating, where the foregoing, more common, treatment fails, great benefit may still undoubtedly be secured.

15. *Magnolia Bark, or Fruit*, in recent cases of dyspepsia, the bark, or cones containing the Fruit, made into a tea, or tincture, by abandoning the *cause* of the difficulty, will greatly assist the cure. There is the *Magnolia glauca*, known as the sweet Magnolia, swamp sassafras, and in the South, as the white-bay, or sweet-bay; and the *Magnolia acuminata*, or cucumber tree of New York and the South, and *Magnolia tripetala*, or umbrella tree; and then there is the *poplar* tree of Michigan and Ohio, and probably of other Western and Northern States, used for lumber the same as the *cucumber* is, all have very similar properties, and are considered as valuable tonics, and also anti-periodic, having cured intermittent fever, or ague, after the Peruvian bark for some peculiarity of the system, had failed. If a laxative and sweating effect is desired, take the tea warm; if taken cold, its effect is tonic and anti-periodic.

Dose of the tea, a wine-glassful 5, or 6 times daily.—*King*.

The tincture made by adding 3, or 4 of the broken up cones and seeds to brandy, or 76 per cent. alcohol, after a week, or 10 days, may be taken in tea-spoonful doses with hopes of success, in dyspepsia, or chronic rheumatism.

16. There are occasional cases of Dyspepsia, which the London *Lancet*, in reporting several cases of, calls the "Dyspepsia of Liquids," in which fluid of any kind does not seem to be absorbed from the stomach, but rather accumulates there, and on motion, "swashes around," as they say, making it very disagreeable and distressing. In all such cases, all liquids, as water, tea, coffee, milk, etc., must be abandoned to as great an extent as possible, before any treatment will have any beneficial effects; in fact, more depends upon the dry diet than upon other treatment. This, to a certain extent, will prove valuable in all cases of a Dyspeptic character.

17. *Tonic for Dyspepsia, Fevers, etc.*—There is probably no single article of medicine combining so many necessary properties for the weak and debilitated condition of Dyspepsia and Fever patients, as that of the Wahoo, the technical, or Latin name of which is *euonymus atropurpureus*, known also as the Indian arrow-wood, spindle-

tree, burning-bush, etc. It grows in many parts of the United States, from 8, or 10, to 15, or 20 feet high. The bark of the root is the part used. King's American Dispensatory says, "it is Tonic, laxative, alterative, diuretic, and expectorant; in infusion, sirup, or extract, it has been successfully used in intermittents, Dyspepsia, torpid liver, constipation, dropsy, and pulmonary affections." These facts are so satisfactorily explained by L. H. Redd, M. D., of De Soto, Ill., in a communication to the *Eclectic Medical Journal*, I will give my readers the benefit of his knowledge, manner of preparation, etc. He says:

"Some years ago I called attention to this agent, and gave directions how to prepare it for use. Having used the euonymus very extensively, I feel fully competent to give the best mode of preparing it for use as well as pointing out the conditions indicating its use. Having used the decoction, sirup and fluid extract, and a saturated tinct., I am well satisfied that the best preparation of the euonymus is a saturated" (as strong as can be made) "tinct. of the green bark. In strength it is fully equal to the best fluid extracts that I have purchased; it costs about 25 cents a pt., instead of \$1.50 to \$2.00 per pt., as the fluid extract, which is a very important item to the physician, if not to the druggist; it is a beautiful straw-colored, unirritating, not unpleasant preparation, while many of the fluid extracts are black, dirty, nasty, irritating fluids—vile stuff, not equal in medicinal power to a decoction of the green bark.

"**Mode of Preparation.**—Take the green, or recently dried bark, break it into small pieces so that it may be closely packed into a large jar, fill the jar 'chuck-full;' now pour your diluted alcohol into the jar until the bark is fully covered, let it stand about 2 weeks, and express the fluid from the bark, and you will have the most beautiful and valuable preparation of euonymus ever made. According to this form, 1 lb. of the bark will make 1 qt. of tinct.

"**Dose.**—Ten to 30 drops 3 times a day.

"**Properties and Uses.**—Under the old classification, the euonymus was set down as a mild, unirritating Tonic, cathartic, diuretic, and alterative, and before the age of humbugs terminating in *in* and *ine*, it was highly prized as a most valuable medicine, and is no less valuable now. What are the *specific*" (positive, or certain) "uses of euonymus? After a malarial* Fever has been arrested, it is one of our best agents to prevent a relapse. I usually give 30 drops 3 times a day in a wine-glassful of water. In malarious districts we frequently meet cases of *atonic Dyspepsia*" (Dyspepsia arising from general weakness, or debility), "the bowels are costive, and the liver and spleen congested. In such cases the euonymus is the remedy. I have cured some cases of Dyspepsia from irritation of the stomach with euonymus after the failure of other treatment. In several cases of this kind following, or rather associated with malarial fever, tongue red, papillæ" (the little nipple-like elevations forming the whole surface of the tongue) "elevated, great tenderness in the epigastrium" (stomach and upper part of the abdomen), "and right hypochondrium" (right side of the abdomen), "bowels costive, anorexia," (no appetite, but not loathing food) "skin dry, pulse accelerated, euonymus was the remedy in doses of 30 drops, as above. The euonymus appears to exert a

* Malaria, Malarial, and Malarious, come from Latin words which signify tainted, or bad air. It may be animal, or vegetable Malaria, but that in low flat sections of the country which is believed to produce fevers, or ague, is considered to be of a vegetable character.

special influence on the respiratory and circulatory systems, and may be used with advantage in asthma, emphysema," (bloating of the flesh) "and as a Tonic in other pulmonary diseases, also in hypertrophy" (enlargement) "of the heart. It is not surpassed by any other agent, where the bitter Tonics are required. As a Tonic it is full—equal, if not superior to 'bark.'" (By "bark," here, is meant, Peruvian bark.)

The number of explanations required in a paragraph like this, to enable the people to understand the Latin terms used by physicians in describing medicines and diseases, as well as the different parts of the body, will show the importance of a plainly written Work like this—these terms are called *technical*, meaning peculiar to any branch of the Arts, Professions, or Mechanical Trades. Although I have endeavored to keep my own writing free from these "technical terms," I have not felt like dropping any other writer's technicalities, lest they might accuse me of making them appear *unscientific*, yet, I have felt constrained to explain them, and as there is no other way so perfect as that of (brackets), I have adopted that plan, although in some terms requiring a *long* explanation, it may lead to confusion, unless the reader will adopt the plan of going back, after having read the explanation, and read the subject again without reading the explanation. In this way, you get the perfect sense of the original writer without the loss of time, or annoyance of turning to "Webster's Unabridged," especially so if you have not got one in the house, nor a \$10 bill to spare, to buy one with.

D. MISCELLANEOUS RECEIPTS. D.

DANDRUFF.—Simple Remedy.—The accumulation of Dandruff, upon the scalp, or among the hair, is not only annoying, by causing an intolerable itching, compelling persons, troubled with it, to be perpetually scratching; but its falling upon the collar and shoulders, of a nice dress coat, leads strangers to believe one to be negligent of personal cleanliness, which is not the case, often, at least as its constant falling will soon make quite a show upon a black coat especially. The question, then, is how to get rid of it?

John L. Davis, in the *American Journal of Pharmacy*, says that after being annoyed with it for years, trying the various alcoholic and castor-oil solutions, also the borax and carbonate of potassa preparations, the latter of which, although it proved effectual in preventing the Dandruff, yet, his hair became thinner and thinner, and he believed would finally have fallen "out altogether." As a "last resort," he says: "The belief that Dandruff arises from a disease of the skin, although physicians do not seem to agree on this point, and the knowledge that the use of sulphur is frequently attended with very happy results in such diseases, induced me to try it in my own case.

"A preparation of 1 oz. of flour of sulphur and 1 qt. of water was made. The clear liquid was poured off, after the mixture had been repeatedly agitated during intervals of a few hours, and the head was saturated with this every morning.

"In a few weeks every trace of Dandruff had disappeared, the hair became soft and glossy, and now, after a discontinuance of the treatment for 18 months, there is no indication of the return of the disease. I do not pretend to explain the *modus operandi*" (mode of operation) "of the treatment, for it is well known that sublimed sulphur is almost,

or wholly insoluble, and the liquid used was destitute of taste, color, or smell. The effect speaks for itself. Other persons to whom it has been recommended have had the same results, and I communicate the result of my experiments in the belief that it may be valuable and acceptable to many who have suffered in the same manner as myself."

DEAFNESS.—Simple and Effectual Remedy.—Garlic juice, expressed by mashing and pressing out through muslin, glycerine, and oil of sweet almonds, equal quantities of each, say, a tea-spoonful.

Shake together, in a phial, several times, or until there is only two portions of it, after standing—then shake when used—at first each of the 3 parts remain distinct. Put 3, or 4 drops into the effected ear, daily, until cured. I have found it very effectual. Possibly onion juice would have the same effect, but I have not tried that.

DENTRIFICES.—See TOOTH POWDERS.

DIARRHEA.—Valuable and Effectual Remedies.—In the Summer season, Diarrheas, or *intestinal troubles*, more commonly, however, called "bowel diseases," are about as frequent as "coughs and colds," in Winter, and like these last mentioned difficulties, almost everybody has his remedy. With *eclectics*, within the last few years, there has come into use, or perhaps I should say, has been introduced, three articles, not previously much used for these purposes, and, I believe, mostly by Prof. Scudder, of the Eclectic Medical Institute, of Cincinnati. I refer to the tinctures of *nux vomica*, *aconite*, and *ipecacuanha*, for short, called "ippecac." I will first introduce his remarks, through the *Eclectic Medical Journal*, of which he is the editor, to "the profession," I believe in the June number, 1872. Under the head of "Intestinal Troubles," he says:

"As we are reaching the season of 'bowel diseases,' it may be well to give them a few thoughts. With Spring, *vegetables, green fruits, and new potatoes, overwork, and an incautious use of cold water*, comes colic, Diarrhea and cholera morbus, and an increase of work for the doctor. If we can refit our *armamentum medicorum*," (armament of medicines) "and get better remedies, now is our time to think of it.

1. "For the *common colic* of the season, more frequently the result of overwork and consequent indigestion, than anything wrong in the ingesta." (food) "we have a capital remedy, which will be *new*—at least, for this purpose—to most of our readers. It is *nux vomica*, and in this case we make the following prescription:

"Take tinct. *nux vomica*, 5 drops; water, 4 oz.; a tea-spoonful repeated every 15 minutes until relieved. Of course, when we have evidence of irritant material in the bowels, we give the old-fashioned compound powder of jalap and senna.

2. "Many cases of the Diarrhea of Spring and Summer, are the result of overwork and cold, *muco enteritis*" (inflammation of the mucous, or internal surface of the small intestines). "The symptoms are very distinct, and the remedy certain.

"Take tinct. *aconite*, 5 to 10 drops; tinct. *ippecac*, 15 drops; water, 4 oz.; a tea-spoonful every hour.

"The *dysentery* of early Summer arises from like causes, is in fact an inflammation of the mucous membrane of the large intestines, *muco colitis*, and I never think of prescribing anything but the *aconite* and *ippecac*, unless there is a malarial influence requiring quinine.

3. "When the season is a little further advanced, we have an

atonic Diarrhea, marked by free, large, watery evacuations, and an enfeebled circulation and innervation. I prescribe for this:

"Take tinct. nux vomica, 5 drops; tinct. ipecac, 10 drops; water, 4 oz.; a tea-spoonful every hour.

"Cholera morbus is a common disease of this period, and some of the cases we meet will be pretty severe. None should terminate fatally if the physician does his duty. I like the old prescription, compound tincture of cajeput, in half to one tea-spoonful doses, until the patient is relieved of nausea, vomiting, Diarrhea and cramps. The remedy is so good, no one should forget to add it to the remedies in the saddle-bags, or pocket-case. If we have not this, we may treat our patient with small doses of nux and ipecac, frequently repeated. If we have nothing with us, common salt, to stop the vomiting, and black pepper, for the Diarrhea, will be supplied from the kitchen, and are good remedies."

The above medicines, however, are more likely to be used by physicians, or those who pay considerable attention to the treatment of these difficulties, as the nux vomica and aconite, if taken accidentally, or intentionally, in large doses, would become more dangerous than the original disease; but in the doses mentioned, they will be found effectual, and satisfactory; yet, the following Receipts are more in accordance with common practice, i. e., with persons who have not studied medicine regularly:

4. Diarrhea Tincture—Very Valuable.—Tincture of rhubarb, 1 oz.; spirits of camphor, laudanum, and tinct. of ginger, and ess. of cinnamon, of each, $\frac{1}{2}$ oz.; tinct. of capsicum, $\frac{1}{4}$ oz. Mix and shake when using.

Dose.—Half a tea-spoonful, on sugar, or in a little sweetened water, and repeat every 30 minutes, in severe cases, until relief from pain is obtained; then every hour, or two, as needed, until the evacuations are lessened and improved in appearance. The friend from whom this was obtained, was first cured with it, after a long siege, and afterwards cured many others. If used with judgment, it will be found a very valuable medicine.

5. Diarrhea, or Cholera Tincture.—The following Cholera Tincture was extensively used by the troops in the "Mexican War," and was reported, through the *Philadelphia Inquirer*, as "exceedingly valuable" in Diarrhea, Cholera, etc.:

"Laudanum, spirits of camphor, ess. of peppermint, and Hoffman's anodyne, of each, 1 oz.; tinct. of ginger, $\frac{1}{2}$ oz.; tinct. of cayenne," (as Nasby would say, "which is" *capsicum*), "1 dr. Mix all together.

Dose.—A tea-spoonful in a little water, or $\frac{1}{2}$ a tea-spoonful, and repeat it in an hour afterward, in a table-spoonful of brandy.

"This preparation," continues the *Inquirer*, "will check Diarrhea in 10 minutes, and abate other premonitory symptoms of Cholera immediately. In cases of Cholera, also, it has been used with great success to restore reaction by outward application."

I would add, that I feel perfectly satisfied that it can be depended upon to give satisfactory results, if repeated occasionally, in part, or in full, as the case seems to demand. Some persons prefer the ess. of wintergreen to that of peppermint, or cinnamon; in such cases, let the wintergreen be substituted for either of them; the difference in action will not be perceptible, especially, as against the peppermint.

6. Use of Sugar in Diarrhea.—Drs. Behrend and Sieber recommend the meidcinal use of Sugar as a curative means of great value in Diarrhea, and several other affections of children, and they relate two cases of Diarrhea—one a child, aged 3 years, and another in a child, aged 4 years—in which $\frac{1}{2}$ oz. of powdered white Sugar, given every hour, soon gave a favorable turn to symptoms of extreme gravity, which had long resisted all the ordinary means of cure. Other evidence of a similar character is promised, and it is believed that there are many conditions of Diarrhea, particularly those in which there is putrefactive tendency in the alvine secretions, where Sugar will, in all probability, prove a most valuable remedy.

In these putrefactive cases (tending to death by mortification) I should, by all means, use the Sugar, not, however, neglecting other proper treatment.

1. DIPHTHERIA—Successful Treatment.—We have received a Receipt for the cure of Diphtheria, from a physician who says that of 1,000 cases, in which it has been used, not a single patient has been lost.

The treatment consists in thoroughly swabbing the back of the mouth and throat with a wash made thus: Table salt, 2 drs.; black pepper, golden seal, nitrate of potash, (nitre) and alum, of each, 1 dr. Mix and pulverize; put into a tea-cup, which half fill with boiling water; stir well, and then fill up with good vinegar. Use every $\frac{1}{2}$ hour, 1, 2, and 4 hours, as recovery progresses. The patient may swallow a little each time.

Apply 1 oz. each of spirits of turpentine, sweet oil, and aqua ammonia, mixed, to the whole of the throat, and to the breast-bone every 4 hours, keeping flannel to the part.—*N. Y. Tribune.*

It is, undoubtedly, an exceedingly valuable treatment.

2. Successful Treatment in New Jersey.—The standing Committee of the Medical Society of the State of New Jersey, made the following report upon this disease, and its Successful Treatment, which was published in the *Medical and Surgical Reporter*, and as this report agrees so generally with the present understanding of the disease, I copy it entire:

"Diphtheria is regarded, in all the reports, not as a *local* affection, but as a *blood* disease, and of a specific" (certain) "character, distinct, in the opinion of most of the observers, from scarlet fever and croup. Its diagnostic" (distinguishing) "symptom is expressed in its name" (the name means a membrane; hence, in this disease, it is understood that a false membrane, as in croup, is formed only in this disease, it is more in patches, than as a whole.) "The membrane, or membranous exudation forms patches, and becoming, more, or less, continuous over the *velum palati*" (velvet-like palate) "fauces, and adjacent parts, includes, in the more severe and mostly fatal cases, the larynx and trachea. It prevails epidemically" (affecting many people at a time), "either by infection, or contagion, or under malarious influences, just as scarlet fever, and other exanthemata" (diseases having eruptions, or spots on the surface). "It is, however, not attended with an eruption. It is, with few exceptions, a disease of low grade" (producing debility, weakness), "requiring tonic, and not depleting measures. It prevails in high, well-drained and non-malarious districts, as well as low, marshy regions, and lastly, though not less important on that account, it is, though often fatal, a disease

as readily controlled by judicious and careful treatment as any other grave, or bad, disease. Dr. Bacon, of Cumberland, reports 8 deaths only in 200 cases; Dr. Rosenberger, of Hunterdon, reports 3 deaths in 80 cases; Dr. Southard, of Essex, 4 deaths in 40 cases. This is a mortality of only about 4 per cent. Others report a moderate prevalence of the disease, but in a mild form.

"The views of the reporters in regard to the treatment are remarkably uniform. Indeed, no one can read their reports without being impressed with the fact that there are well-established and well-defined principles of treatment which direct the physician in his management of the unhealthy condition.

"The Treatment recommended is constitutional and local. When asthenia" (weakness, debility) "characterizes the affection, as was the case in most districts noticed, tonics and stimulants, with beef tea, and other supporting measures were adopted and recommended as usually successful. The tinct. ferri sesquichloridi" (tincture of the sesquichloride of iron), "15 drops in water, every 3, or 4 hours, with chlorate of potassa and quinia, brandy, and brandy with milk; chloric ether, etc., are the articles chiefly recommended. For the local affection" (throat difficulties), "nitrate of silver in solution, 20 to 50 grs. to 1 oz. of water; sulph. of zinc and tannic acid were used with more, or less benefit. The disease, though new here as an epidemic, yet, there can be no doubt it has always occurred sporadically" (in single and scattered cases). "This is the opinion based upon the experience of the Committee." I should much prefer the gargle, or preparation as in No. 1, to that of the nitrate of silver, just above given.

As to the constitutional character of the disease, Professor Pepper, of the University of Pa., says:

"Diphtheria is not a local affection; it must be owing to some particular condition of blood. The Diptheretic exudation is not confined to the throat. A blister on the leg of a person will become covered with the deposit, and the patient may become attacked with severe and constitutional affections, and die sometimes, independently of the local disease, when the blood is in this diseased condition."—*Scientific American*.

This will account for some deaths, when the throat was improving, and the death, consequently, surprising.

"3. Dr. Bowles, of Beardstown, Ill., reports through the *Eclectic Medical Journal*, a large number of cases of Dyptheria successfully treated with the tinct. of *phytolacca decandra*, poke-root. It is used in strength, by different physicians, ranging from 4, or 5 to 50 drops of the tinct. to a common $\frac{1}{2}$ pt. tumbler of water, and given in doses of from $\frac{1}{2}$ to 2 tea-spoonfuls at a time, and using it also as a gargle. I will quote only a few cases, out of the many given:

"4. Miss B., æt. 20, Nov. 8th, had severe chill at night, with great pain in back of head, back and limbs, followed with fever and sore throat. 10th, was called to see her; found her suffering very much with great headache, worse in back part, back and limbs aching fearfully, tonsils very much swollen, and covered with grayish pseudo (false) membrane, tongue very red at tip, coated white, great prostration, can not stand, and if she raises up in bed, she immediately faints away. Prognosis unfavorable. Gave *phytolacca*, 4 drops at a dose every

hour, and a gargle of same between. Morning, decidedly better. Continued same treatment for 3 days, when false membrane came off and 5th day discharged her cured. Took a large spoonful of beef tea every 2 hours. Had no other remedy. It was remarkable to see how quickly the fever abated under its influence.

"6. Mrs. B., *æ*t. 31. Nov. 16th. Throat commenced to feel sore in morning, followed by high fever all day, right tonsil very much swollen; at noon commenced to see white substance forming on the tonsil. Was called 10 p. m., found right tonsil covered completely with white pseudo-membrane, fauces and soft palate very much inflamed, deglutition almost impossible, loss of appetite, great frontal headache, bowels moved every 2 hours, with severe pain in umbilical regions, great prostration, vertigo" (dizziness) "so great that she can not walk. Pulse 127, soft. Gave phytolacca 4 drops every hour, and a gargle of same every hour, consisting of 50 drops in tumbler water. 18th, very much better; pulse, 100, throat does not feel near so sore, false membrane beginning to come off, back and limbs ache but slightly, headache nearly gone; continued same treatment 3 days. Discharged her cured. Diarrhea stopped second day.

"6. Mrs. G., *æ*t. 21, nursing a babe. Dec. 11th, throat commenced to feel sore, very restless night. 12th, slight headache with severe pain in back and legs, very chilly all the time, throat very sore, both tonsils very much swollen and covered in patches with dark-colored pseudo-membrane, deglutition" (chewing) "very difficult, face very much flushed, great prostration, can not sit up any, so faint and weak, bowels regular. Gave phytolacca 4 drops every 4 hour, with gargle of same. 13th, feeling very much better; fever all gone, back and legs do not ache any, throat feeling very sore, tonsils very red and swollen, covered in patches with the pseudo-exudation, deglutition very painful. Continued same treatment once an hour. 14th, feeling quite well; pseudo-membrane off from both tonsils, large holes eaten into tonsils, can swallow quite well. Continued same treatment every 2 hours, discharged her cured next day. Babe nursed her throughout, did not take disease. Attended a lady once before who did the same with babe, and it did not take the complaint of mother.

1. DISINFECTANTS—Cheap and Effectual.—A Disinfectant is that which will purify, or destroy such matter as would infect, or cause sickness, or have a tendency to that end. I have generally used common stone lime for water-closets, sinks, etc.; but I see by the following item from the *Industrial Monthly*, that common copperas is held in high esteem for all such purposes. It says:

"One lb. of green copperas, dissolved in 1 qt. of water, and scattered down a water-closet, will effectually concentrate and destroy the foulest smells. On board ships and steamboats, about hotels and other public places, there is nothing so nice to purify the air. Simple green copperas, dissolved under the bed in anything that will hold water, will render a hospital, or other places for the sick, free from unpleasant smells. For butcher's stalls, fish markets, slaughter-houses, sinks, and wherever there are offensive putrid gases, dissolve copperas and sprinkle it about, and in a few days the smell will pass away. If a cat, rat, or mouse dies about the house and sends forth an offensive gas, place some dissolved copperas in an open vessel near the place where the nuisance is, and it will purify the atmosphere.

2. For Pest-houses, or rooms and buildings where persons with the *eruptive fevers*, as small-pox, scarlet fever, or measles, have been suffering, sulphurous acid, arising from burning sulphur in the room, is considered one of the best Disinfectants in use. The plan of proceeding, is to close up all ventilations, as fire-places, stove-pipe holes, cracks, etc., then in a kettle, or upon the hearth, to sprinkle sufficient sulphur upon the burning coals to fill the room with the sulphurous acid, or fumes arising from it, and leave the room, at once, closing the door, and throwing down an old cloth at the bottom, to prevent the escape of the gas, or the ingress of the air; then leave the room, thus closed, over night, or its equivalent of time.

3. The Bromo-Chloralum,* the new disinfectant, is claimed to possess remarkable powers in cleansing privy-vaults, sinks, etc., but its expense will keep it out of general use, at least, until it can be reduced in price.

4. Dry Earth has recently been found out to possess extraordinary properties of absorbing bad odors; hence the patented Earth-closets, which have proved very satisfactory. In the Philadelphia hospitals, also, Dry Earth has not only been found to destroy all the bad odors in the wards, or divisions of the hospital, but also to absorb the septic, or infecting matter of wounds, upon the same principle as explained under the head of CLAY, or EARTH POUltICES, which see.

5. Chlorine Gas is a very effective Disinfectant, and is easily made by moistening say, 2 ozs. of the black oxide of manganese, in 4 ozs. of oil of vitriol, and 2 ozs. of water, all to be placed in a shallow, or low earthen, or stone-ware dish. Gas will be liberated, or set free, for several days, or until the manganese is all decomposed.

6. Carbolic Acid diluted with water, 1 dr. to 1 qt., or even of a less strength, and cloths dipped in it and hung about the room, or sprinkled about, will completely Disinfect, or remove all bad odors, except its own, which time, and a free circulation of air will do.

1. DROPSY.—Horse-radish root, steeped in cider and drank as hot as it can be borne, and in as large quantities as can be borne, has cured several cases, by following it up for a few weeks. It is to be taken at night, only, covering up the patient warmly. It causes a free flow of urine, as well as perspiration.

2.—Another—Russian Remedy.—A Russian medical journal recommends lemons, as beneficial in the most hopeless cases of Dropsy. The 1st day, 1 lemon was given, after taking the peel off, and cutting it up into small pieces, in sugar; 2d and 3d days, 3 were given; and afterwards 18 every day. Meat was given for nourishment. In every case the water came off the 7th day.

I should expect but few to be able to take half of the last named amount of lemons daily,

3. Digitalis in Dropsy.—G. C. Pitger, M. D., of Detroit, Ill., reported through the *Eclectic Medical Journal*, several cases of Dropsy successfully treated by the use of Digitalis. He says:

* Bromo-Chloralum is a peculiar compound of bromine, chlorine, etc., both of which are closely related to bad odors. Bromine comes from a Greek word, which means a bad smell, while Chlorine signifies a greenish color. The compound is made from the sesquichloride of aluminum, *sesqui*, meaning half more, or three parts of Chlorine to two of aluminum, which is a metal, forming the metallic base of alumina, an earthy mineral, or a *sesqui* mineral, being composed of three parts of oxygen to two parts of aluminum, and so chemistry goes its wonderful rounds, revealing from time to time, something valuable, to supply our needs, as well as to satisfy our curiosities.

"During the Summer and Fall of 1865, we had an epidemic of scarlet fever in this county, and a great many of the cases were very severe. I treated it almost exclusively with belladonna, and with uniform success, but a few cases were followed with Dropsy, which proved to be the most troublesome feature of the disease. Amongst others, my little girls were attacked, and the eldest, then eight years old had all the symptoms of scarlatina anginosa, followed by general Dropsy. For this Dropsical condition we resorted to all the best means recommended by the profession without any benefit. We called counsel, changed the treatment from time to time, but without any change in the symptoms for the better. We had made up our minds to give up the case, and had in our own imagination bidden our loved one farewell. About this time *Digitalis** was suggested, and with but little confidence I prepared an infusion of foxglove as follows:

"Take foxglove" (leaves), "1 dr.; wild cherry-tree bark" (green) "1 oz.; juniper berries, 1 oz. Mix.

"Make $\frac{1}{2}$ a pt. of infusion by adding boiling water, and keeping it nearly boiling hot for an hour, then strain and sweeten with crushed sugar, and when cool add $\frac{1}{2}$ a pint of best Holland gin.

"Of this preparation I gave my little girl 1 tea-spoonful every 6 hours. The spoon we used in this case held about a drachm and a half, and now let me say that after the second dose we discovered quite a change in our patient for the better. Now imagine our feelings. From a state of gloom, darkness and despair, we thought we saw a ray of hope. We continued the treatment, and in 2 days time the symptoms for the better were marked; and without further trouble or additional means our patient made a rapid recovery. Now this was no little case of a few days' standing. Not at all. For days and weeks we had tried in vain to overcome this tendency to Dropsy, and many times during the progress of the disease it seemed as though dissolution was inevitable.

"We know that this Dropsy following scarlet fever is generally looked upon as a small matter, and a little of this and a little of that recommended with full confidence of beneficial results, but when we come to manage a case that really needs our skill, it is not so easy a thing to manage after all. Let me say right here that if you want trouble in your family, just subject your scarlet fever patients to *regular medicine*, as taught by Condie, West, Wood, Flint, or Watson. I know what I am talking about by actual experience, and while I make no great pretensions myself, I have implicit confidence in *Specific Medication*, and an utter contempt for the "*destructive art of healing*," as generally taught by Allopathy.

**Digitalis Purpurea* is the Latin, or technical name, and *foxglove*, is the common, or English name. It is a native of Europe; but has been introduced into the United States. The leaves are generally used, but the seeds are more active and efficient. In large doses, it is poisonous, but in medicinal doses, it is a diuretic and sedative lessening the heart's action, lowering the pulse, etc. It would be well, I think, in cases like that of "Mr. H.," last given above, where it should be continued for 10 days, or two weeks, to stop its use for a week or 10 days, after which it might be again resumed, as its effects are sometimes, what is called "accumulative." *i.e.*, if long continued, its legitimate action, or poisonous effects may manifest themselves, known by irritation of the stomach, nausea, vomiting, and free evacuations of the bowels. Then stop its use, as above suggested, and give an emetic, in case of an over-dose, using warm water, or other warm drinks freely, and if dizziness, or dimness of sight, give wines, or other spirituous stimulants, which will soon set all to rights; but if properly used, there is no danger of this difficulty; and it has been explained, that no one should ever catch themselves on a "pin-hook," by carelessness, in its use. If persons know the nature of articles being used, it puts them on their own responsibility.

"While speaking of Digitalis, I will instance another case, or two, and make no farther reference to Dropsical cases following scarlet fever, of which I could report several.

"In 1867, a young lady from this neighborhood went to Ohio on a visit to some of her friends, and while there was taken seriously ill, the more prominent symptoms of the case being anasarca" (general Dropsy). "Remember Dropsy is a *symptom*, not a *disease*. She was treated '*regularly*.' The report came back to her friends that she could not, in all probability, recover. Her mother came to me for advice. I remarked that it was impossible for me to determine the particular lesion upon which the Dropsy depended, but that if all the usual means had been resorted to without benefit, and she so requested, I would make her a prescription, stating, at the same time, that we could, in all probability, do her some good. The old lady was very anxious, and having implicit confidence in our skill in this relation, requested me to fix up the prescription at once. I accordingly wrote out the formula, as above given, Digitalis, wild cherry, juniper berries, etc., and the mother sent it out by the first mail, requesting her friends, in the accompanying letter, to procure the remedies immediately, and give them according to directions, and that she would be there in a short time to explain the matter. In a few days the old lady started, and when she arrived at the residence of her friends, she found that they had received her instructions, and were already using the remedy. The young lady was quite sick, but they had implicit confidence in their medicine, and in a few days the symptoms for the better became apparent, and without further difficulty, or additional means, this case made a rapid recovery.

"Now you may say this was a kind of guess work, and so it was; but Digitalis met the indications in the case, was the true *specific*, and I'd give all I make, in one year's practice, if I could always *guess* when this remedy was indicated, for it is one of the most reliable remedies we have. You may think the wild cherry and juniper berries had something to do in these cases, and so they might; but my impression now is, after several years' experience, that the whole thing is due to the one remedy—Digitalis.

"About six weeks ago, while at the hotel in our county seat, I met an old friend—not a relative, or former patron—who resides about 2 miles from me, and during our conversation he related to me a peculiar difficulty under which he had been laboring for many years. To begin with, I'll just state that this man is about 45 years of age; bilious, lymphatic temperament; temperate habits; weighed at that time, 275 lbs.; and withal, he is a man of very superior intellect. His statement was about this: "'Doctor I feel quite unwell. I've not been well for several years; sometimes feel better, sometimes worse. I'm growing more fleshy every year. I've been troubled with some kind of kidney disease for a long time; am bilious nearly all the time; anti-bilious remedies scarcely give me temporary relief, and leave me worse than they found me. The least exertion makes me puff and blow like a wind-broken horse. I feel dull and stupid all the while; have no energy as I used to have.'" He said considerable about his condition, not necessary to mention here, after which I gave him an examination, and said: 'Mr. H., I'll tell you what you need. *You need just one remedy*. It won't cost you much, and if you will use it, you shall have the benefit of my judgment, in your case,

gratis.' He said: 'Well, doctor, what is it?' I answered: 'You need Digitalis.' 'Digitalis!' said he; 'why do you prescribe that?' I responded: 'To meet the indications in your case, sir, and my word for it, if you will procure the remedy in the form of the *officinal tincture*' (kept by druggists) "and take it in doses of 10 to 15 drops, 3 times a day, you'll receive more benefit from its use than from all the medicine you've taken for 10 years.' He went straightway to the drug store, and bought an oz. of the tincture, and commenced using it at once. He called at my office yesterday, and made the following report: 'Well, doctor, that Digitalis did the work for me, and I've told more than 20 doctors about it, (by the way, Mr. H. is quite a business man, and is around considerably), and now, sir, if you believe me, in 30 days from the time I commenced using the remedy, I had got rid of 28 lbs. of my surplus, and I felt better every day from the beginning, and now feel splendid—better than I have felt for years, and you see my clothes, that would barely meet on me, are entirely too large; and now, doctor, I can run all over this farm with you, without the least inconvenience. It is almost incredible, but actually so, that a great work has been wrought in my case, and I feel like a new man.' "

DRUNKENNESS, TO CURE.—The following Receipt came into use in England, through John Vine Hall, who was the father of the celebrated divine, Rev. Newman Hall, and of Capt. Vine Hall, of the *Great Eastern*. After habitual Drunkenness, for a long time, he finally succeeded in curing himself by this prescription, of an eminent physician:

"Sulphate of iron, 5 grs.; magnesia, 10 grs.; peppermint water, 1½ drs.; and spirit of nutmeg, 1 dr.; the whole taken twice, daily. It is tonic and stimulant, and has proved beneficial in numerous cases, there; but I am not aware of its having been used in the United States, yet it can not hurt any one; and if anybody needs help, it is him who has become a slave to his appetite for strong drink, and desires to abandon its use.

1. DYSENTERY, OR BLOODY FLUX—Remedies.—Take a tea-spoonful of epsom-salts, and dissolve them in a little water, adding 10 drops of laudanum, and give for a dose, every 4 to 6 hours, as may be necessary to relieve the pain, applying externally, to the bowels, mustard plasters, or horse-radish leaves, until the inflammation of the bowels attending Dysentery, subsides. If salts are not at hand, castor-oil may be used in its place.

2. C. W. Selleck, M. D., of St. Clair, Mich., reports to the editor of the *Eclectic Journal*, what he has found perfectly successful in the treatment of Dysentery, as well as a criticism upon the idea of running, after new hobbies, in medicine, when old plans do not fail—when they do fail, in my own opinion, as well as in that of Dr. Selleck, it is time enough, then, to look up the new. He says:

"**PROF. SCUDDER—Dear Sir:**—I have been noticing the many efforts made to get a *specific*" (positive) "treatment for Dysentery by the different members of our School, and after testing them all and finding them failures, wish once more to call the notice of our School to a little old fogysm, as it is called, and try to impress upon the minds of our practitioners that when leaving what is good, and our experience tells us that in the past it has been successful, for some new hobby that we are not only running risks with the lives of our

patients, but we are hurting the cause that we are trying to build up. We must have principles to work by, and when we have a principle established, let our organs keep these principles before the School, so all may work together.

"A few years ago Eclecticism taught us that Dysentery was caused by a certain virus, or irritating matter, which was generated in the stomach. This was to be neutralized first, and then carried off. And to do this a specific treatment was given, which I have followed for at least fifteen years without one single failure. Nor do I ever expect a failure if I can see a patient while there is vitality enough left for medicine to act upon it, where Dysentery is the only thing I have to contend with. I always begin with the following:

"Take leptandrin, salicine, of each 1 dr.; Castile soap, made fine, 2 drs.; make into 5 gr. pills. Give 2 once in 2 hours, until there is a change in the passages from the bowels. Aconite to control the fever. If there is not a change in 12 hours, (which, by the way, I have never seen fail but twice) I then give crystalized nitrate of silver, 2 grs. Make into 5 powders. Give 1, once in 2 hours until there is a change, or all to be taken. Give the latter in mucilage of gum Arabic, then give the first again, and there is no such word as failure in the cure of Dysentery.

"The treatment here given is for adults of course. I know many will cry out against these old notions being rehearsed in the *Journal*, but when I see my brother practitioners losing cases all over the country by trying to ride some new hobby, when I, by following closely the teachings, or principles given in the past, cure every case of the same kind, and at the same time and under all circumstances, I cannot help concluding that they are wrong. *The principle then is to neutralize the poison and remove it, and soothe and heal the denuded and inflamed bowel.* The Castile soap will do the first and last, the leptandrin the second, while the salicine comes in as a tonic to tone and strengthen the bowels to a performance of their proper functions after the irritation is removed. If there have been failures with this treatment, will some brother report them, as I have never met with one."

DYSPEPSIA—Constipation, etc.—Prof. King informs us that there is a gentleman, not a physician, near Cincinnati, who has gained considerable notoriety in the treatment of Dyspepsia, Constipation, loss of appetite, piles, etc., by the use of a powder made of equal parts of sulphur, rosin and the inner skin of a chicken's gizzard, dried and pulverized.

DOSE.—Five to 10 grs. 3, or 4 times daily. It may be taken in a little sirup, or molasses. This skin has been recommended by old nurses, for many years, for Dyspepsia. It is believed, however, that the use of gizzard skin for these difficulties was first introduced by the Indians, they having used those of the pigeon, and perhaps other birds of a similar character. I have not before seen this combination recommended, but I believe it will prove valuable.

Dyspepsia and Diarrhea.—Special Food for.—Raw meat has not only been recommended as a Food in Dyspepsia and Diarrhea, but also as being a valuable remedy in itself; and especially so in diseases of a consumptive character.

Raw meat is a remedy, or rather aliment of great value in cases of Dyspepsia, in which indigested Food causes irritation of the bowels

and attacks of Diarrhea. It seems to furnish the most efficient kind of nutriment with least inconvenience from bulk, or other injurious quality, and is digested and absorbed with as little fecal remains as any other Food. In cases of acute Summer Diarrhea in children, raw meat is in itself both a *remedy* for the Diarrhea and a *nutriment* for the child; also in the Chronic Diarrhea of children and in the habitual Diarrhea associated with "marasmus,"* and, lastly, in the cases of *obstinate vomiting of pregnancy*, whether associated with Diarrhea, or not, it is frequently of the greatest service. It must be prepared by pounding, or scraping raw beef, or mutton, so as to get out the red soft, muscular substance as free as possible from all tendinous fibre and fat. It must be a soft pulp, giving no feeling of resistance when squeezed between the fingers. The beef should be perfectly fresh, and nice, cutting it very fine, after freeing it from all the fat and stringy fibres, then pounded to a pulpy mass, and seasoned with a very little salt and pepper. I have had several cases wherein it proved very satisfactory. I believe Dr. Druitt, an English surgeon and author, has the credit of first introducing this article to the notice of the profession.

Dutchman's Temperance Lecture—Short, but Sound Common Sense.—As it does everybody good to, "laugh and grow fat," I have thought I could not close with the letter D better than by giving a "Dutchman's" thoughts on the subject of Temperance; and if it will give one person additional strength of principle to resist the temptation "to drink," it will pay for the space it occupies. He says:

"I shall tell you how it vas I drunk my lager; den I put mine hand on my head, and dere vas one pain. Den I put mine hand on my body, and dere vas pain. Den I puts my hand on my pocket, and dere vas notting. So I jine mit de Demperance. Now dere is no pain in my head, and de pain in my body vas all gone away. I put mine hand on mine pocket, and dere vas 20 dollars. So I stay mit de Demperance beeples."

Boys, go and "jine mit de demperance," and "stay mit de demperance beeples," if you wish to keep your heads free from pain, and your pockets filled with cash.

ELECTRICITY—The Advantage of its Use in Treating Some Chronic Diseases.—The following treatise upon the use of Electricity in Chronic Diseases, was written by Mrs. S. E. Morrill, M. D., of Cincinnati, O., and was published in the *Eclectic Medical Journal*, and I am satisfied that the principles advocated are correct, although I have had but little personal experience with it, but I have observed its use by others, and believe that there is much more benefit to be derived from it, than is generally acknowledged by any of the different Schools of medicine; and I fully agree with Mrs. Dr. Morrill, in the necessity to "combine *Materia Medica, Electricity, and Hydro-pathy*," i. e., *medicine, electricity, and water*—the *first*, perhaps, as alterative, and cathartic, and also to aid the *second* in toning up the system, and the *third* to cleanse the surface, thus enabling the skin to do its legitimate work of throwing off effete, or worn out matter from the system. It is not expected, by any means, that every family will purchase an Electrical Machine; but that in peculiar cases of Chronic

**Marasmus* comes from a Greek word, literally meaning to quench, or put out, like putting out a fire; but, in medicine, it signifies a wasting away of the flesh, and strength, and yet, without any special disease being actively present, a consuming, or wasting of the flesh.

Diseases, where either the patient who may be treating their own case with but little, or no apparent advantage, or whether it be a physician who is having, perhaps, no better success; then, if he has no Electrical Machine, let one be got, and try it in connection with the other general treatment, as I believe, with great hopes of success, and as the present prices range only from 6, or 8 to 12, or \$15, their cost will not be sufficient to prevent their use.

With an additional remark upon the subject of the *Mrs. Doctor*, I will introduce her treatise. I think it is cause of great congratulation that so many ladies are of late, coming forward, and braving the ridicule and scorn that students, *calling themselves* gentlemen, are disposed to heap upon them, at least in some of the Medical Colleges where ladies have been permitted to enter. I say, *shame* on the man who is not willing to aid them in such a laudable undertaking; and I will say to the ladies, *persevere*; like Eclecticism, the *principle* is founded upon *truth*, and consequently it *must* prevail. There are many of the gentlemen physicians, who cannot write half as intelligible a treatise on any medical subject, as Mrs. Dr. Morrill has done upon the curability of Chronic Diseases and their Successful Treatment with Electricity," which was the full heading under which she wrote. She says:

"There are many diseases considered incurable by the medical faculty. Every physician knows, or ought to know, in what class of diseases he, or she is the most successful, and to this particular class should devote all of his, or her energies, and not like a patent medicine proclaim themselves an infallible cure for all diseases. An invalid should remember when a physician tells him that his disease is incurable, he bases his assertions on his own experience. There ought to be *three distinct classes* in the medical profession—that is, if a physician wishes to become eminent and successful:—the *surgeon*, the physician in *acute*, and the physician in *chronic* diseases. In an Electrical point of view, the two latter are perfect antipodes; thus acute diseases arises from a positive, and chronic diseases from a negative condition of the system. To be successful the treatment must be perfectly unlike, because they arise from entirely dissimilar conditions of the system. Neither does the successful physician ride one hobby; different constitutions require different kinds of Treatment.

"The world is full of 'pathies,' not one of which is sufficient in itself to meet the exigencies of diseased mankind. I do not rely on one kind of Treatment, but combine *materia medica*, electropathy and hydropathy. If one will not cure, I bring the whole to my aid, and find, with perseverance, the foe I battle with is generally conquered. I am aware it is attempting a great deal to advance any new theory of medical Treatment. Here under our free and republican government, a physician is not considered orthodox who dares to look to the right, or left for new agents to relieve the sufferings of men and women. Happily for suffering humanity, our neighbors across the broad Atlantic have been more liberal and broader in their investigation. If it were not for these lovers of science, the therapeutical value of the Electrical discoveries of Galvan, Faraday, Cross and others, would not have been tested in the Universities and hospitals in France, England and Germany. Galvanism and other forms of Electricity are now extensively used in the Old World, and according to Faraday, Golding Bird, Smee, and other distinguished medical writers, with

the most flattering results in chronic diseases. The more the subject is investigated the clearer will we see the value of Electricity as a therapeutical agent. Golding Bird says: 'I feel most anxious to press its employment upon the practising physician, and urging him to have recourse to it as a rational but fallible remedy, and not to regard it as one expected, or capable of effecting impossibilities.' Neither should a cure of a disease for which it is applied be anticipated in a miraculously short space of time. Disease in an organ produces change in the condition of the organ diseased, and time must be allowed for the process of absorption and deposition necessary to bring the organ back to its normal condition. Medicine produces physical impressions on the system, but never heals disease; the curative power is in the vital, or Electrical forces of the individual. If there is not *nervo-vital* force sufficient in the system to cure the disease, it will pass from an acute condition into what we term chronic, or negative state. When we find this condition we must vitalize with chemical Electricity by giving general treatment with a galvanic battery, and by so doing we can bring the disease back to an acute, or positive condition, then by the help of remedies cure the patient.

"It is not an easy matter to give directions for the popular use of Electricity; so much depends upon the constitutional peculiarities of the patient, that no chart can be safely put into the hands of those who have not made physiology, anatomy and pathology a study. So much depends upon the diagnostic skill of the operator and his, or her judgment in making the application, the proper course for a physician to do is to make Electrical therapeutics a special study, placing himself under a competent teacher. To be successful as an Electrician requires a great deal of study and experience. Those itinerant Electricians that are perambulating the country giving shocks to the people, are doing more harm than good. The current is applied by this class of men with a power too intense for even a healthy person to endure. The remembrance of these shocks is one of the worst things I have to contend against. They get the impression that I cure by a succession of shocks. Ladies often get so nervous before the first treatment, it takes all my magnetic power to control them until I get the sponge upon them. Then they always admit that my Electrical manipulations are more agreeable than otherwise. Some parts of the body are more sensitive than others; while a strong current is necessary to effect some organs, a weak current is required to have a beneficial effect on others. To the experienced Electrician the exact locality of the disease will be readily detected by the operator and patient without asking a question, and I contend if it possessed no other recommendation, this alone should make it an object to every physician. I wish I could impress upon the practicing physician the importance of this potent agent in all chronic diseases, especially for female diseases. For uterine displacements it has a mechanical action that can not be obtained any other way. Mechanical Treatment is as necessary to effect a cure of prolapsus uteri, as it is in a broken limb. Medical skill has never yet discovered any mechanical means that could reach those relaxed ligaments. It was accidental that I have found an infallible power that will never fail if rightly used, to replace the worst displacements, whether retroversion, antiversion, or prolapsus; the last, if uncomplicated, can be cured permanently in a week's time. It will cure congestion, ulceration, cancers, tumors and all morbid

growths of the pelvic organs. Local Treatment alone will cure uncomplicated prolapsus, stiff joints, or contracted muscles, but it is absolutely necessary to give general treatment for the permanent cure of any diseased organ. I do not believe it possible to produce any radical cure by any kind of local treatment. It is well known that abscesses, or tubercles in the lungs, or ulcers in any part of the body, denote impure blood. Local application is necessary in connection with the general treatment, while the slow but sure work of purification is going on internally. In chronic diseases of long standing, the nerves leading to the diseased organ are generally paralyzed, and it takes three treatments to vitalize those nerves so that they will take on their own individual Electricity.

"In connection with my Electrical Treatment for uterine troubles, I give some simple wash. I never use strong astringents, such as nitrate of silver, or sulphate of zinc, nothing stronger than tinct. of myrrh, and I have never failed in curing any uterine disease, where they would give me a month's time. Patients sometimes come and take 4 or 5 Treatments, and because their trouble is aggravated, get frightened and stop Treatment. If they will wait until after the crisis, then they improve so fast I can generally hold them till the cure is permanent. It takes about 2 weeks to get past the crisis. It depends somewhat upon the constitution and nature of the disease. While I am giving general Treatment, I have most of my patients take malt and salt baths twice a week. That carries off the poison that has been thrown to the skin by the Electrical Treatment.

"A lady called on me that had been treated by a physician for fibroid" (fibrous) "tumor. It was involved in the walls of the uterus. He was giving her local Treatment alone, not even medicine. If she had continued that Treatment alone, she would have died. She was suffering from general debility. Her stomach and liver were in a very bad condition. The tumor was being discussed, but what became of it? Of course, it was being absorbed and carried back into the blood, and *common sense*" (here is good sense) "ought to teach us it must be carried out of the system, or death would follow such foolish kind of Treatment. I gave her general Treatment, ordered baths, wet compresses worn at night over the abdomen, gave her mild cathartics, and she stopped flooding, menstruation became normal" (healthy) "and she gained 15 pounds of flesh in 2 months, and the tumor disappearing. All kinds of tumors and cancers can be absorbed," (I would say, probably they can, in their early stages); "ovarian much sooner than fibroid; also polypus in any part of the body. In the last 6 months, I have caused to be absorbed full 12 lbs. of a solid tumor, and the patient is now so well, the tumor does not trouble her at all. She would not know she had it, if we could not feel it.

"Is it not a glorious thing that this class of diseases can be cured without the knife, and your patient's general health, good after the first month's Treatment? I took a tumor off from the lower lid of Mr. H.'s eye, of this city, with 18 Treatments. The surgeon was to have taken it off with the knife. We little know the power of this agent. Some physicians will give a few local Treatments, and because they can not perform miracles, they give it up. 'Don't give up the ship.' While there is life there is hope. If 20 Treatments won't cure, give 100. I gave 60 Treatments to cure a case of diabetes, complicated

with neuralgia. The lady had not lain down for 6 weeks on account of neuralgic pains in her limbs and back, in the region of the kidneys. All the sleep she obtained was sitting in a large chair. But perseverance, Electricity and malt baths, cured her. Mrs. R., of Dayton, came to me for Treatment, a year ago last May. I gave her 4 Treatments. She, feeling worse, got frightened, and stopped treatment. She says to me: 'I like you, but I do not like your thunder and lightning.' Her physician told her, if she had taken it 5 minutes longer, it would have killed her. (Of course, she thought a *man* must be wiser than a *woman*). After being Treated by him all Summer, and receiving no benefit from calomel, and other horrid drugs, she came to me again, in October last. She says: 'I believe I will try to overcome my fear of Electricity. If you can only cure me, so I can have a child, I will be the happiest woman living.' She said she had taken a pill every night for 2 years, to move her bowels. She said there was some obstruction. Upon making an examination I found a stricture just within the anus, and on passing my finger by the stricture, I found the rectum, as far as I could reach, full of ulcerations. Upon further examination, I found prolapsus uteri, ulceration, and congestion of the uterus. There was also a prolapsus of the bladder, making a vaginal cystocele.—The lungs and all the excretory organs very much diseased. I supposed the ulceration of the bowels was caused by mercury, so I ordered her to dissolve $\frac{1}{2}$ tea-spoonful of charcoal in $\frac{1}{4}$ a glass of water, and to drink that amount every morning. That kept her bowels open until I could get her liver active, and stricture cured, and also to antidote the mercury. I first put my wits to work to cure the stricture, never having any instructions in regard to it. I knew I must use the relaxing current direct upon the stricture, for the first 3 Treatments. I used the rectum electrode, then the vaginal electrode, which is about the size of a rectum speculum, for 3 Treatments; the positive, or relaxing current direct to the stricture, at the same time passing the negative current over the several nerves for 15 or 20 minutes, each day; then finished up with a general Treatment, consuming an hour's time for the whole Treatment. The 6 Treatments cured the stricture. The patient was lying on the lounge for the rectum Treatment, but, for general Treatment, sitting in a chair. The next thing to do was to replace the uterus, which I did with 5 Treatments, by inserting an electrode in the vagina, and giving general Treatment. I replaced the bladder by contracting the ligaments that held the bladder, as I do for prolapsus uteri" (falling down of the uterus). "I had consumed now about 2 weeks' time, gave a Treatment each day, an hour long. I then gave her a Treatment every other day, for 6 weeks. At the end of 6 weeks, she had gained 12 lbs. I then left Dayton for Cincinnati. She bought a battery, and continued to use it herself. I will quote from a letter she wrote me a few weeks ago:

"I will not be able to go to Cincinnati to see you this fall—you can guess why.—I have gone to house-keeping."

EMETICS.—Emetics not only empty the stomach of its contents, but they give a shock to the whole nervous system, and prepare the way for the proper action of other remedies, by exciting the skin and all the other organs, in a measure, to their more regular secretions, promoting perspiration which prevents the accumulation of blood upon any particular organ (except the stomach itself for the time

ing,) giving tone to the stomach, liver, spleen and other connecting organs, greatly assisting to break up recent attacks of disease, and also to begin an amendment in diseases of long standing; but, of late, they have fallen into considerable disrepute, from their unpleasantness, which causes many to submit to disease rather than to take Emetics—of course, such can take their choice. But where an excessive meal has been eaten, or in cases of poisoning, they are still resorted to without much complaint. And there are about as many forms, or formulas, as there are physicians. I shall only give a few of those in more common use.

1. **Emetic Powder, as now used by Eclectics.**—Lobelia, 3 drs.; blood root, and skunk cabbage, of each, $1\frac{1}{2}$ drs.; ipecac, 2 drs.; capsicum, $\frac{1}{2}$ dr.

All of these articles are to be finely pulverized, and intimately mixed, and kept in a well corked bottle for use.

Dose.—The proper way to take this Emetic is to put 2 medium sized tea-spoonfuls of the powder into a tea-cup with 4 table-spoonfuls of hot water; and as soon as it is cool enough, stirring, 2 or 3 times, stir up again and take one table-spoonful, or one-fourth of the amount, every 15 minutes, following each dose with warm boneset tea, or warm water, the tea however is the best, for the boneset has Emetic properties of itself. The warm water however, is the most palatable.

This may be used in all cases where an Emetic is needed, as it will vomit easily, and quickly, without causing cramps, or prostration as sometimes occurs where the lobelia was used alone, in its early history.

2. **Dr. Scudder, one of our best Eclectic physicians, having a very extensive practice in Cincinnati, O., in his Domestic Medicine, says:**

"We employ a combination of lobelia epicac, bloodroot, and skunk cabbage, of each, 2 ozs.; capsicum, $\frac{1}{2}$ oz. Pulverize and mix. It is the most thorough and efficient Emetic that I have ever employed in acute affections, as fevers, and inflammations. It first produces nausea, the patient being very sick, relaxation of the entire system takes place, equalizing the circulation of the blood," (one of the chief objects of an Emetic in fevers and inflammations), "and completely evacuating the contents of the stomach. Add a heaping tea-spoonful of the powder to $\frac{1}{2}$ of a tea-cupful of boiling water; let it stand 15 minutes, when it will be ready for use. Give it in table-spoonful doses every 5 or 10 minutes until it operates freely; an abundant supply of warm water, or gently stimulating tea being taken to render its action easy. Its administration may be continued half an hour, or hour, or until the necessary effects are produced."

The utmost confidence may be placed in Dr. Scudder's recommendations, as will be gathered by various references to him, and his numerous publications, in different parts of this Book.

There are many physicians, however, that prefer to use it in the form of tincture, also dropping the epicac, avoiding, thus, the drugs, which are drunk, in the use of the powder. The tincture may be made as follows:

3. **Emetic Tincture.**—Lobelia, skunk cabbage, and bloodroot, of each, bruised, 2 ozs.; alcohol, 76 per cent $1\frac{1}{2}$ pts. Bottle and shake daily for a week, or 10 days.

Dose.—A large tea-spoonful of this tincture may be given every 10 minutes, in boneset, or any warm herb tea, until as free vomiting is

produced as desired; drinking once, or twice of the tea between doses also.

This will be found a valuable expectorant also, in all kinds of coughs, in the same dose, repeated only once in an hour, or 2, or 3 hours, according to the severity of the cough.

Again there are those who prefer the tincture to be made with vinegar, using only a small amount of alcohol, as a help to preserve it. It is made as follows:

4. Acetous Emetic Tincture.—Take the roots, lobelia, etc., the same amount as for the alcoholic tincture No. 3, and bruise them and place them in distilled, or pure cider vinegar, 1 qt. and keep warm for several days; or what will do just as well, will be to steep all in a closely covered dish, that keeps in the steam, for a few hours, then strain and press out; or for druggists, percolate, then add best alcohol, 2 ozs.

Dose.—A table-spoonful in boneset, or any of the aromatic teas, repeat every 15 minutes, drinking the tea freely, until vomiting takes place. As an expectorant, $\frac{1}{2}$ to 1 tea-spoonful, repeated in 1 to 2—3, or 4 hours according to the desired effect. King informs us that this makes an excellent application in erysipelas, and tetter. It is more especially used as an Emetic, and gargle in croup, and all throat diseases, as diphtheria, scarlet fever, etc.

5. Emetic and Cathartic Powder.—Dr. Bone's.—Old Dr. Bone, a celebrated botanic physician in the commencement of the *medical reform*, made great use of ipecac, powdered; given in doses of $\frac{1}{2}$ tea-spoonful, mixed in molasses. He gave it in dropsy, obstructed menses, jaundice, and liver difficulties.

Emetics.—Directions in Giving.—In all ordinary cases of giving these Emetics, it is best to use freely of boneset, pennyroyal, or Thompson's Composition tea, or warm water, according to the determination of the patient to make the action of the Emetic easy, or to have the taste of the mouth more agreeable, which ever may be used, let $\frac{1}{2}$ pt, or so, be drank, before the Emetic is begun. The pennyroyal is the pleasantest, to me, at least, more so than warm water; but each one must judge for themselves, or be governed by what they have at hand, or can purchase of the druggists. If the amounts mentioned, in any case, does not give 2 or 3 free vomitings, it is best to use half as much more, and continue the teas more freely in connection with the Emetic, until 2, or 3 free evacuations of the stomach have taken place. Then have some gruel ready to drink, which will soothe the stomach and strengthen the patient, who should keep as quiet as possible for an hour, or two.

EPILEPSY, OR FALLING SICKNESS.—Dr. King claims that this is not a disease, of itself, but a symptom only, of a diseased condition of the nervous centers—brain, or spinal cord. No matter what may be claimed, by any one, for all acknowledge the whole subject to be wrapped in great mystery, and but very few claim that any special good can be done for such cases, only what will improve the general health.

All that I shall attempt to recommend in these "fits," or "fallings," is to place the person upon the bed, if one is present, if not, straighten them out, remove, or loosen any clothing that may be around the neck, loosen the waist girding, if a lady, and be careful that the tongue is not caught between the teeth so as to be injured. A cork, or

a thick piece of leather might be placed between the teeth for this purpose, if there is any grinding of the teeth, otherwise the tongue is pretty certain to be injured. And care must also be taken to prevent the patient from injury by any spasmodic action, while insensible; and refer the case, for examination, to the best neighborhood physician, if you see fit. He may ascertain some cause, which may be avoided, thereby helping the case. The only thing that can be done during the spasm, is, in some cases where it would otherwise be of long continuance to open the lips and give the *Emetic Tincture*, or some anti-spasmodic medicine, by putting it inside the lips, if the teeth are set, that it may find its way to the stomach, causing a more speedy relaxation of the system. Friction of the limbs, and a cloth wrung out of cold water and laid upon the neck and breast, will be all that can otherwise be of any especial benefit.

Eat only food that is easy of digestion, in moderate quantities, take gentle exercise, keep out of dangerous positions, where injury from falling would be likely to occur, and use gentle medicines that are known to promote the best condition of health generally, as a gentle cathartic once in a week, or two, occasional bathing, and friction of the surface, gentle tonics, and perhaps alternating the cathartic, with an emetic, one a week from the other, for 2, or 3 times each, then allowing as much time between a repetition, as they were used, say 4 weeks. Nothing of greater benefit in the present state of medical knowledge can ordinarily be done.

ERYSIPELAS: St. ANTHONY'S FIRE.—This disease is a true inflammation, affecting the skin, or surface of the system first, but it occasionally affects the deeper seated tissues, with considerable swelling, and sometimes gathering and forming deep ulcers of an exceedingly painful and burning character, when it takes the name of *phlegmonous Erysipelas*, from Greek words which signify a burning inflammation beneath the skin.

The surface will show a shining red inflammation, with swelling, itching, smarting and burning irritability, very distressing to bear. It is most frequently confined to the face, neck, and head, and here it is more generally of a surface, or superficial character, but may also involve the cellular tissue which lies immediately under the skin. The deep seated, or phlegmonous Erysipelas, more frequently attacks the fleshy parts of the legs, or hips, gathering and breaking, leaving deep ulcers, of a distressing character. It may effect other parts of the body, or limbs, and still be confined to the surface, but not so commonly.

In the progress of the disease, more especially when it is confined to the face and head, it is apt to form little blisters, or vessicles, (the doctors call them, as you know it would not do to call them by words that the common people would understand), which contain a yellowish matter, sometimes watery, and sometimes tough and sticky, adhering to the parts, and if the blisters are pretty close together, forming a scab over the whole surface, the swelling perhaps closing the eyes, and the patient suffering with pain in the head, fever, great thirst, restless, and occasionally delirious.

On other parts of the body, or limbs, it is not so common for the blisters to appear, but the itching and burning may be intense and excruciating; and occasionally it seems to "strike in," as it is said of measles, causing sickness and irritability of the stomach, for a time,

then again appearing upon the surface. The head and face attacks are considered the most dangerous, they certainly are the most distressing.

In confirmation of our position as to the disease being a "true inflammation" I will quote from the "American Eclectic Practice of Medicine" by Jones and Sherwood, wherein they say :

"Erysipelas may with great propriety be considered *the most perfect type of inflammation, taken in its literal sense, that we can refer to.* Although it is, without doubt, a constitutional disease, or symptomatic" (a symptom only) "merely of some abnormal" (unhealthy) "condition of the system, or of the blood, it more perfectly answers to the idea conveyed by the term *inflammation*, than any other known inflammatory affection. It is characterized by a circumscribed, *fiery redness* of the skin, accompanied by a *burning sensation*, and generally terminating in *vesication*," (raising blisters on the skin), "or of ulceration (he might well have added), "it is associated with, or *preceeded* by constitutional derangement and fever."

Cause.—Although the disease is generally believed to arise from a deranged and unhealthy condition of the blood, it undoubtedly has a definite starting point, like other inflammations, as "a cold," or check to perspiration, Causing a retention of some of the various secretions in the blood which are ordinarily carried off by the kidneys, or skin; or it may be by an over-heating of the blood, which is equally bad; or by derangement of the digestion whereby the blood becomes viciated, or bad, from want of the proper supplies. It is undoubtedly contagious also, if the matter from any sore, arising in the disease, is got into a wound, or upon an abraded surface, the skin being actually broken the person will be likely to have it; and it often arises from wounds, especially in hospitals, so that surgical operations can not be performed without Erysipelas setting in; hence, attendants, or nurses need to be very careful not to allow the matter to touch any wound, or sore, upon themselves.

With some persons Erysipelas is hereditary, they having an attack, or two, every year; and with such, in case of frost-bites, or other sores, or wounds, it will usually manifest itself in the Spring of the year, until the wet season is past. Such should be very careful to keep themselves in the best possible general health.

Symptoms.—The usual Symptoms of *fever* most generally accompany, or go before this disease—aching of the limbs, languor, debility, loss of appetite, bad taste in the mouth, bowels costive, and finally chilliness and heat alternating, or a distinct chill, followed by fever; and there may be nausea and vomiting, with severe pains in the head, or back, or both, and perhaps sore throat; and after a day, or two, seldom at the commencement of the disease, a reddish spot upon the face, head, or neck, or some other part, but more generally here, as before remarked, will be discovered, which will increase in redness, and size, and finally develop the full intensity of the disease, as first mentioned. The redness, and swelling may extend generally around the starting point, but quite often extends more in one direction, shown by a leading red streak, at first, light in color, but deepening, as it advances, swelling extensively, and finally manifesting the full intensity of the disease. The color of the matter filling the blisters, or the surface of the skin on parts of the body where the blisters do not arise, somewhat determines the condition of the blood, as I believe; but if it does not, it certainly determines the degree of inflam-

mation, for the higher the color of the matter, or surface, the less the inflammation, or the better the condition of the blood; and the darker, the more intense the inflammation; or, in other words, the more viciated the blood.

Treatment.—It being a well established fact, then, that *Erysipelas* is an inflammation, and that the blood is out of order, it becomes a perfectly plain case what the Treatment ought to be—equalize the circulation, and restore the general health, by purifying the blood.

2. In the commencement of fever symptoms, a sweat, emetic, and cathartic, judiciously administered, and accompanied with an appropriate diuretic, as the acetate of potash, will quite often work such a decided change in the condition of the system, as to entirely break up the disease, if not, they are to be repeated at proper intervals, say every day, or every second, or third day, according to the severity of the symptoms. And, as there may, at first, be some considerable uncertainty as to what the character of the approaching disease may be, it is perfectly appropriate, nay, is almost absolutely necessary to begin in time, with this class of Treatment. Some authors insist upon it in all cases where much lassitude, or weakness, and pains in the limbs, or back, are experienced, while others begin the Treatment with cathartics and pass by the sweating and emetic; but I insist upon a thorough sweat, if I cannot be allowed to give an emetic. And the use of the *spirit lamp*, I find to be the handiest and easiest plan of giving a sweat, I adopt that plan, and make a thorough work of it; then give the emetic, if the patient will submit to it. The emetic powder is as good an emetic as can be used for general purposes, to be kept always on hand; and the *acetous tincture*, for children, and croupy diseases. Then the *senna, compound infusion*, is mild, and appropriate for any grown person, or child, hence may always be used in the commencement of disease without fear of aggravating it. The *acetate of potash* is very appropriate as a diuretic in all diseases attended with symptoms of fever; hence, proper in Erysipelas; yet none of these points should be pushed to excess, but, rather, a moderate action only should be sought. They may be repeated however, on the 2d, 3d, or 4th day, as the case may demand, as above recommended. *Sudorific*, or sweating medicines may also be given in moderation, to keep a tendency to slight perspiration.

It is not deemed necessary, here, or when speaking of the Treatment of fevers, or inflammations to repeat how a sweat, or an emetic, or a cathartic, or a diuretic medicine shall be given, but when they are spoken of, persons who have not already become familiar with them, should refer to them under their appropriate heads, and study them until they become familiar with them; then they can fully understand the descriptions without the necessity of constant repetitions. And for a better understanding of these explanations, I shall occasionally refer to this disease—*Erysipelas*—as a guide in fevers and inflammations.

An Alterative drink should be made for the patient, to be used as often as drink is required, of the bark of the sassafras root, dandelion and burdock roots, and white-elderflowers—dandelion root should always be fresh dug, as drying injures it. Let the tea be made palatable with sugar, or honey, and not made very strong; and if the disease is not broken up within 3, or 4 days, one of the alteratives with $\frac{1}{2}$ to 1 oz. of iodide of potash to 1 pt. be taken 3, or 4 times daily until the disease yields to the Treatment.

In all cases of fever, to any considerable extent, in any disease, let the surface be sponged 2, or 3 times daily, and in the night also if very much fever, with bay-rum (a fragrant and cooling liquor obtained by distilling the leaves of the bay-tree—a species of laurel, *laurus nobilis*.) The patient can take the sponge into the hand after the general sponging is done, and from time to time, clasp it in one hand, then the other, and pass it frequently over the face and back of the hands, neck, etc., according to his strength, and the heat of the fever thus receiving a very grateful sensation of coolness and satisfaction not to be otherwise obtained; besides this, it is well known, that what in any manner checks the fever and gives comfort to the patient is so much gained towards breaking up the disease, and also in increasing the patient's strength to hold out against its ravages. When suffering with the fever in *typhoid pneumonia*, myself, I found it the most soothing and grateful to my feelings of anything that was done.

2. Dr. Beach says he has seen a *single vapor bath to remove all the heat, swelling and itching in Erysipelas*. It is certainly a valuable assistant; and if the head is involved, put the blanket so as to cover the head, yet, of course, keeping a breathing place—the mouth and nose not covered, or at least taking outside breath as often as necessary. I deem the restoration of the secretion from the skin to be of the very greatest importance; and consequently it must be restored to a healthy action, in as much as its great extent materially assists to carry off such a large amount of effete, or worn-out matter from the system.

3. Local Applications.—It was at one time supposed that an absolute *specific* (positive, or certain cure) had been found in the *muriated tincture of iron*; but experience has shown that unless the general healthy secretions are all well restored, there is *nothing* as a Local Application, that can be depended upon as an absolute cure; but when they are properly restored, the Local Applications become very valuable; and none more so than the muriated tincture of iron, internally, as well as externally. As an external application let this tincture be combined with an equal amount of glycerin, and apply with a soft piece of cloth, or camels hair pencil, all over and even extending beyond the inflamed part; but, if there are already blisters, avoid touching them with it. Apply every 3 or 4 hours, keeping the inflamed part covered with cloths wrung out of *slippery-elm water*, into a qt. of which a table-spoonful of the muriated tincture may be put; but if the iron should irritate, or increase the irritation, and cannot consequently be borne, use the slippery-elm water alone, as it will be found cooling and soothing to the heated and burning surface; but Dr. Scudder thinks if we have any *specifics* at all, in disease, the muriated tincture of iron is one, in *Erysipelas*.

Sulphate of Iron in Erysipelas.—Mr. Hulke at the Middlesex Hospital, has lately tested the great efficacy of Iron Sulphate in extensive Erysipelas. He uses it as a lotion of 10 grs. to 1 oz. of water, applied warm on a rag; and believes it acts as a local styptic, astringent, and sedative, as well as a constitutional tonic. In circumscribed Erysipelas on small surfaces, he applies the ordinary coating of collodion and castor-oil. He deprecates the application of flour to any part, as a source of dirt, blebs, "(blisters)" and maggots. So many cases of Erysipelas have lately occurred in and around the hospital, that he thinks it must be caused, in wounded and weak patients, by a deleterious atmospheric influence. What the nature of this influence is, he is unable to say.—*British Medical Journal*.

Perhaps some persons may not know that *ferri sulphas*, *Sulphate of Iron*, *Sulphate of protoxide of Iron*, and *green vitriol*, all mean one and the same thing—*copperas*. Prof. King speaks of it as having been used in the form of an ointment, with lard, in *Erysipelas*; but in solution, as above, may be the better way.

4. At the same time, the *muriated tincture of iron* may be given internally in doses of 10 to 20 drops in half a glass of water, repeated once in 3 hours; and if the preliminary, or first directions have been properly carried out there will generally be but little to be feared.

5. But in case the fever is not subdued, and should continue in any considerable degree, let the *febrifuge*,—*veratrum* and *aconite*—be used to reduce the pulse and assist to overcome the febrile activity. See *FEBRIFUGE*. And when the fever remits (goes off) for some part of the day to any considerable extent, so as to leave the patient without much fever for several hours, in the 24, have ready some quinine and prussiate of iron ready to give on the next remission:

6. Quinine 16 grs.; prussiate of iron 12 grs. Mix and divide into 4 powders, and give one every 2½ to 3 hours, according to the time the patient is without fever; so as to give this amount in the time, if the stomach will bear it, as in fevers.

7. *Cranberry Poultices* made by boiling the Berries soft, and to such a consistence as to be proper for applying to the surface of the inflamed parts, in *Erysipelas*, have been highly recommended. To be renewed as often as necessary. It might be thickened, a little, with *slippery-elm* powder, such as kept by druggists; or if no *Cranberries*, nor any tinct. of iron at hand, the *slippery-elm* poultice may be used; and if there is a tendency to gangrene (mortification), as shown by the very dark appearance, the elm powder had better be made into a poultice by using brewers yeast in place of water; and if the throat is very sore in any complication of the disease, gargle with the yeast and swallow a little of it also, every hour or two and watch closely, in these bad cases, and change the poultices as often as needed if you hope or expect to succeed. And if the disease has located upon the legs, and has been characterized by deep and extensive swellings, as it sometimes is, and then the dark, or gangrene tendency manifests itself, the yeast should be thickened with about equal parts of the flour of slippery-elm and of finely pulverized charcoal which is a great anti-septic (septic comes from a greek word which means to make putrid—to mortify). This combination—and if no elm can be got, the next best thing is flaxseed boiled to a soft consistency and used with the yeast and charcoal—proves a most excellent anti-mortificationist in all sloughing ulcers, by stimulating the parts to throw off the mortifying parts and correcting the putrid, or death-like smell that arises from the sore.

9. *Henry's Herbal* says that *beech drops*, 8 ozs.; in water 4 qts. boiled to 2 qts., are very beneficial in *Erysipelas*, and *canker* in the throat. The directions are, after proper evacuations, as under our first instructions, to divide the decoction and sweeten one part to the taste and take a teaspoonful of it 4 times daily; and to wet linen cloths in the other and keep them upon the inflamed parts, until it is well.

10. *Dr. Beach* says that he cured a case in the city of New York, a Mr. Youle, of the Mechanics and Traders Bank, after all of the common remedies had been tried in vain for over 2 months, and after 3

of the prominent physicians had failed to relieve. The steaming and poulticing and fomenting had also failed; he then tried the *pussy willow*, or black willow bark, pounded and mixed with cream, applied 3 times daily, under which it improved, and although it sloughed nearly to the bone in some places, he got well. After the pain subsided under the use of the willow bark poultice, he substituted the elm poultice made with milk, and finally the *black*, or healing salve. He reports another very bad case he cured with the common remedies—a girl, where sloughing of each leg occurred, nearly reaching the bone also.

11. The Tincture of *lobelia* and *bloodroot*, equal parts, with as much good cider vinegar as of both of the Tinctures have been recommended to use as a wash and to keep the inflamed parts wet with, by laying on cloths. The common smart weed (*polygonum punctatum*—a big name for a little weed) made into a decoction, and may weed (*anthemis cotula*), also called dog-fennel, has been used for the same purpose, as a wash and to keep the parts wet with.

12. When any case runs on for several weeks, or in cases where it is known to be in the system, by its occasional manifestation, showing the blood to be tainted with the disease, let a cathartic be taken once a week, and any good alternative, of this Work, or any one preferred, with the addition of the iodide of potash, as recommended under the head of *alteratives*, 3, or 4 times daily until the system is thoroughly renovated, or for 3 months at least.

I often speak of more than one article, or manner of Treatment. The object is to give our reliance; but in some places the articles may not be got, or not handily; then it is well to know the next best thing; hence, I have deemed this plan but proper, so that according to *opportunities and circumstances*, every one may have something at hand with which to combat the disease—the *muriated tincture of iron*. I think, however, in this disease, should be obtained and used, if among the possibilities.

13. Prof. Gunn, of Bennett Medical College, Chicago, recommends through the *Western Home*, the use of chloroform as a wash to prevent the spread of Erysipelas, and iron and carbolic acid internally. He says:

"In this disease a great variety of articles have been used as local applications to arrest, or control the inflammatory action in the part affected; but after a careful trial in a number of cases, we are convinced that *chloroform* is the best agent within our reach to promptly arrest the spread of any Erysipelatous inflammation. As a constitutional treatment we have combined iron and carbolic acid, and the result has been highly satisfactory. The following is the formula:

"Tincture of iron, $\frac{1}{2}$ oz.; carbolic acid, $\frac{1}{2}$ dr.; water, $2\frac{1}{2}$ ozs. Mix."

"Dose.—Give a tea-spoonful 3 times a day, largely diluted with water."

EXPECTORANTS.—These medicines are, now-a-days, more generally, classed under the head of *cough sirups, mixtures*, etc.; but I will give 1, or 2 here, and refer the reader to the above class and to *emetics* for others, as emetics, if taken in small doses, are Expectorant. Expectorants are such medicines as promote the discharge of mucus, or other matter from the lungs and throat, and if taken sufficiently free, evacuate the stomach also, thus coming under the head of *emetics*.

1. Expectorant Tincture.—For Children and Infants.—J. King's.—Lobelia herb, bloodroot, skunk-cabbage root, wild ginger root (*asarum Canadense*, called also Indian ginger, colt's-foot, and Canada snake-root), pleurisy-root (*asclepias tuberosa*—kept by druggists), of each, in moderately fine powder, 1 oz.; water, or vinegar, I prefer good vinegar, 1 pt.; alcohol, 76 per cent, 3 pts.

Mix and shake 2, or 3 times daily for a week, or 10 days, and filter; or if it is made by druggists maceration and percolation will make it in 48 to 60 hours; but families can use it from the drugs, being bottled and corked, just as well, at last, pressing out of the drugs and carefully straining.

This Tincture forms an excellent emetic for Children and Infants and may be safely used in croup, whooping-cough, bronchitis (inflammation of the throat and bronchial tubes leading to the lungs), "asthma, convulsions, and in all cases where an emetic is required. It will likewise be found beneficial as an *Expectorant*, or nauseant, in coughs, pleuritic affections, asthma, pertussis" (whooping-cough,) "whenever Expectorants are indicated" (needed.) "It is a most valuable compound.

Dose.—"In croup, for children 1 yr. old, give $\frac{1}{2}$ table-spoonful in a table-spoonful of molasses, and repeat it every 15 minutes until it vomits; after which, 1 tea-spoonful every hour, or two, as required—the vomit to be repeated 2, or 3 times a day. A child from 2 to 6 months old, may take from $\frac{1}{2}$ to 1 tea-spoonful for a dose; less than 2 months old from 15 to 25 drops, to be repeated every 10 minutes if vomiting is required; from 3 to 6 yrs. old may take a table-spoonful, in molasses, or warm water, every 10 minutes until it vomits. Warm boneset" (*eupatorium perfoliatum*—also called thoroughwort,) tea, ought always to be given in order to facilitate" (help) "its operation as an emetic."

I have explained in other places that the boneset contains emetic properties of itself, hence is a valuable assistant in giving emetics; but it is not an *absolute* necessity—warm water will do, or pennyroyal, or other warm teas.

"For cough, asthma, etc., to promote Expectorant and remove tightness across the chest" (breast); "and in all ordinary cases where an Expectorant is required, adults may take 1, or 2 tea-spoonsful in $\frac{1}{2}$ a wine-glassful of slippery-elm tea, 3 to 5 times a day, or as often as required. Children from 1 yr. to 10, may take from $\frac{1}{2}$ to 1 tea-spoonful in the same manner, and for those less than 1 yr. from 10 to 30 drops. Should the above doses vomit, they should be lessened, except when vomiting is required. The stomach and bowels *must* be kept regular in *all* cases, by gentle medicines.—*American Dispensatory*.

2. Expectorant Sirup.—Hoarhound herb, comfrey, garden spikenard, elecampane, black cohosh, skunk cabbage, and ginseng, the dried roots, of each, $\frac{1}{2}$ lb. (It can be made of the green articles just as well by using about $\frac{1}{2}$ lb. each); best rye whisky, or alcohol, 76 per cent, 2 qts.; soft water, 2 qts.; nice strained honey, 1 qt.; compound tincture of myrrh, (Thompson's No. 6), acetic tinctures of bloodroot and of lobelia, and the ess. of anise, of each 8 ozs.

Bruise the roots and herb, and put upon them sufficient of the whisky, or alcohol to cover them well, and if there is no especial reason to hurry the making, let them stand a week, or 10 days, shaking, or stirring daily, if in more haste, put them into a dish that can be

covered closely and keep hot, by setting it in a dish of hot water through the day and evening; the next morning strain and press out the spirit and bottle and set by, while the water is put on to the drugs and kept hot 5, or 6 hours in the same way; then strain off and press out as before, and add the other articles when there is just sufficient heat to well dissolve the honey, adding the balance of the spirits if not all used to cover the roots, and mix all with tincture first strained off.

Dose.—A table-spoonful may be used 3, or 4 times daily, or more often if a cough is very troublesome; and it would not be amiss to repeat it sufficiently often, one day in each week, to cause nausea, and if to moderate vomiting so much the better, stopping it then for 5, or 6 hours, and taking freely of gruel when the vomiting is over. In the commencement of coughs, or consumption, this Expectorant will be found very valuable, to be used as occasion requires.

3. Expectorant Elixir.—Sirup of Tolu, 1 oz.; sirup of squills, and paregoric, or each, $\frac{1}{2}$ oz.; wine of ipecac, $\frac{1}{2}$ oz.; mucilage of gum Arabic, 2 ozs. Mix.

Dose.—A tea-spoonful as often as the cough shall demand it. See COUGH SIRUPS, MIXTURES, TONICS, &c., for other Expectorants, or emetics, as they are all of an Expectorant character.

EYE REMEDIES—CARE OF THE EYES, &c.—When too late, and the mischief is done, we learn to take care of our Eyes. No part of the body is more trifled with than these delicate organs; they are overworked, strained, exposed to bad light, improperly used, deprived of their proper rest, etc., etc. When there is no inherited weakness, the eye can as easily be kept healthful as any part of the bodily frame. In order to do this, we suggest to our readers to have, when using the eye, plenty of sunlight in the day, and plenty of artificial light in the night. Have a steady light if possible, and avoid the blaze which flickers and wavers. Take the light from above rather than from below, or in front of the eye—just above the head, on one side, or the other, so that it may come over the shoulder, and illuminate the space between the eye and its work. Avoid working continuously until the eyes are fatigued; do not use them when they are tired, stop any kind of employment when any wearied, or painful sensation is experienced in the nerve, or in the lids; give them plenty of rest, not only by sufficient sleep at night, but also rest in the day. Wash them with cold water several times a day; this will restore vigor, cleanse away impurities, and prevent corruption. Do not rub, or handle the eyes, this weakens their force, makes them more sensitive to the touch of dust, reddens their surface, and subjects them to inflammation. Refrain from using foreign substances upon the Eye, or its coverings, and maintain good digestion.—*Medical Independent.*

Certainly the greatest care should be taken of the Eyes; for when deprived of our sight, the world is a great blank to us, and despair is the first thought of the mind—Oh! what shall I do? My hopes are blighted just as I was about to realize them!

Let these thoughts have their bearing in showing every one the necessary care of their Eyes, as *one* of the chief, if not *the* chief organ by which we derive our greatest daily pleasure.

But notwithstanding we may all give further heed to the instruction for the care of our Eyes, there will cases of inflammations, weak-

nesses, irritations, etc., arise which will call for careful treatment. Among the most common diseases of the Eye, is an

Inflammation of the Edge of the Lid's—(*ophthalmia tarsi*).—This Inflammation is of the small glands which, in health, furnish a fluid which moistens the Eye and enables the lids to move upon the ball, or the ball to roll about, when the Lids are closed, with pleasurable ease; but in Inflammation, this fluid becomes more or less sticky and glutinous (like glue), so that in the morning, as one awakes, it is found difficult to open the eyes.

Cause.—As a general thing, it is considered that the digestion is bad, and consequently the person more, or less debilitated, which causes these Inflammations. Although too constant reading, working in a dusty business, or place, or foreign bodies in the Eye, may be the direct Cause, if from the latter, however, the Inflammation is more general, affecting the coats of the ball of the Eye, and inside of the Lids, as well as the Edges. After a few days the Inflammation often goes down of itself, leaving a dandruff kind of scales upon the Lids, and perhaps upon the brows also, but, sometimes, on the other hand, there is a more intense Inflammation, and ulceration is the consequence, the Eye-lashes falling out. The

Symptoms have been sufficiently enumerated in the *description* and *Cause* not to need further explanation.

Treatment.—If the digestion is known to be out of order, means must be used, to secure, or correct that difficulty; and such a general course taken as directed for *Inflammation*, sweating, bathing, cathartics, alteratives, tonics, proper bodily exercise, and rest for the eyes; together with the use of any of the following preparations, as deemed best from the condition. Of course, for a mild case, a gentle cathartic, and the use of the first eye-water will be all that is needed. If the Inflammation is excessive, and ulceration feared, or actually commenced, besides the general Treatment, a flaxseed poultice, or slippery-elm poultice combined with sassafras, the bark of the root, equal parts of each, mashed, or made fine, and softened by pouring boiling water on them, and continued until the Inflammation subsides, then use any of the gently stimulating eye-waters, found below.

2. If anything has been lodged in the Eye, it must be found first, by taking hold of the lashes of the lower lid and drawing it out over a pencil, or a round, smooth, small stick, causing the person to look upward, and the opposite way, if upon the upper lid; and whatever may be found, may be removed by wrapping a couple of thicknesses of a silk-handkerchief over a pin head, and if it is not stuck in the lid, or eye-ball, it will stick to the silk and be easily removed. If it has penetrated into the coats of either lid, or the ball, take a pen-knife and detach it, or loosen it with that, then remove it with the silk, if it does not adhere to the knife.

3. **Styes**, are quite often troublesome upon the lids. General treatment to improve the health, will usually remove the cause; and poultices, as above, and opening as soon as there is matter known to exist, then a stimulating eye-water is the course to pursue with them, the same as in boils of any other part.

4. **Eye-Water and other Prescriptions for Weak and Inflamed Eyes.**—Blue vitriol, (sulphate of copper, also called blue stone, by some persons), white vitriol (sulphate of zinc), fine table salt, loaf sugar, and morphine, of each, 5 grs.; distilled, or soft water, 5 oas.—

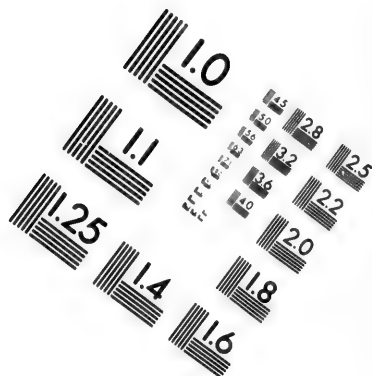
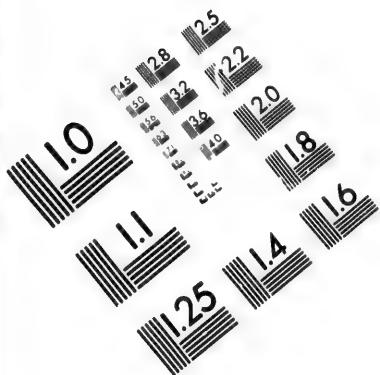
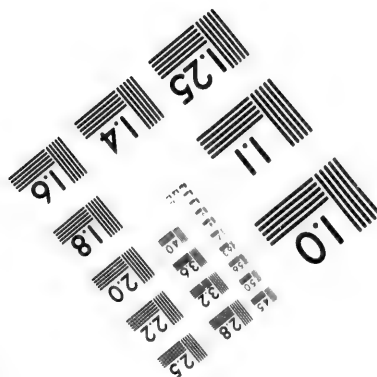
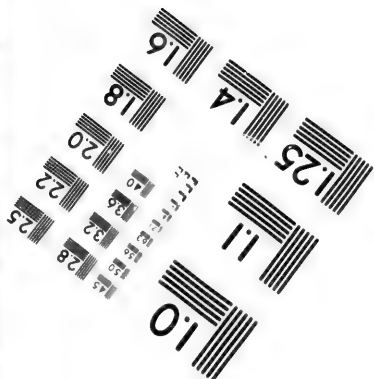
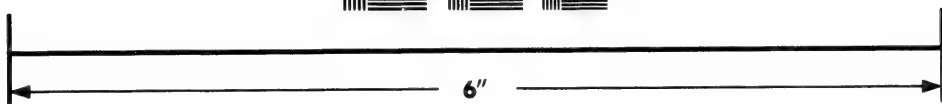
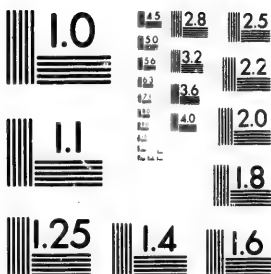


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Mix, and when all is dissolved, strain through fine muslin. Druggists will filter it, and make in large quantities. Some physicians prefer to add an equal quantity of sugar of lead; but I prefer it without the lead.

This will be found valuable in all cases of Weak, Sore, or Inflamed Eyes. Apply it from 3 to 5 times daily, according to the severity of the case. It will be found valuable for domestic animals, as well as for persons.

5. **Another.**—Salt alone, 2 to 5 grs. to the oz. of soft water, used as other Eye-waters, together with a general alterative treatment, with rest to the Eye, and rest to the body, has been successfully used in many bad cases. Rest to the Eye means not to read.

6. **Another.**—A neighbor has used the following Eye-water, successfully, for many years: sulphate of zinc, table salt, and white sugar, of each, 2 grs.; morphine, 1 gr.; the white of 1 freshly laid egg, and soft water, 1 oz.

Boil the egg, and take it from the shell, removing also, the yolk; then mix the zinc, salt, and sugar with the white, placing them in a thick bit of muslin, pressing and squeezing out all of the oily liquid you can, working it sufficiently to dissolve all of the salts. Put into a phial with the water and morphine, for use. To be used as other Eye-waters. The gentleman who gave me this considered it the best Eye-water in use; and I am well satisfied of its value.

7. **Essence of Peppermint**, $\frac{1}{4}$ oz.; soft water, $\frac{1}{4}$ oz., applied as other Eye-waters, has cured very obstinate cases of chronic inflammation and weakness of the Eyes. It is gently stimulating and cooling. If the Eyes are painful, laudanum, 1 dr. may be added. It might be still more reduced if necessary in very weak Eyes, or used a little stronger when it can be borne. The same will hold good and should be considered, in case of any Eye preparation—as the patient can bear it, so use it.

8. **The Pith of Sassafras**, a tea-spoonful in soft water, 1 oz. has been found very soothing, and softening as an application in the glutinous condition of Inflammations of the Eye.

9. **Hops and Poppy Heads**, the heads being thoroughly mashed, and boiled in water makes a good poultice in Inflammations of the Eye, and the water, a good wash, or Eye-water; and if there is considerable matter, put as much pulverized alum to an oz. of the water as may be taken up on $\frac{1}{4}$ inch of the point of a common pen-knife, and wash the Eyes with it twice daily.

10. **Eye-Salve.**—White vitriol, and table salt, of each, 5 grs.; morphine, 2 grs.; nice, unsalted lard, or freshly churned and unsalted butter, 1 oz. Mix.

To be applied by rubbing a little between and upon the lids.

11. **Eye Granulations—Remedy.**—In case of Granulations of the Eye from Inflammation it is the custom to use some article of a caustic, or destroying nature to cut them off. The word Granulation comes from granule, a little grain, from the Latin *granum*, a grain. They are little grain-like elevations that form upon the inner surface of the Eye lids, from excessive, or long continued Inflammation. Some Eye doctors use the nitrate of silver, in stick form, but a better preparation is blue vitriol, 4 grs.; borax, 1 gr., which may be powdered, and mixed; then applied with a hair pencil, a little of the very fine powder, being upon a bit of glass. The lid is to be turned back, and the least bit touched to each granule, daily.

This may be used in stick, or pencil form, by trituration, or rubbing the two articles, powdered, in the same proportions as above given, briskly in a mortar. The heat caused by the friction and combination, melts the powders, or brings out the water of crystallization, which enables them to unite in a mass, or salve, that can be readily formed into pencil form. When dry it can be shaved to a suitable shape at the end, to enable the operator to touch the Granulations as he pleases.

12. These same articles may be used as an Eye-water; blue vitriol ("which is," as Nasby used to say, "sulphate of copper"), 3 grs.; borax, 1 gr.; morphine, 1 gr.; and soft water, 1 oz. Mix.

Apply with the finger, or by dropping 1, or 2 drops, at a time, into the Eye.

13. **Eye-Water.**—Sulphate of zinc (white vitriol), and act. blumbi (acetate of lead), of each, 3 grs.; sulphate of morphia, (morphine) 1 gr.; soft water, 1 oz. Mix. Drop in the Eye, 3 times a day.

14. **Another.**—In 1 oz. of rain water put a lump of white vitriol, as large as a common pea, with 6 times as much common salt, and shake well, in a vial, and it is ready for use, as No. 1.

Each of the persons who gave me the above Eye-waters, from their use, considered them "excellent." That was their word of praise.

EXCRETIONS—Explanations.—The word comes from the French, and means throwing off of effete, or worn out matter from the system—used in contra-distinction to *secretions*, which is done by the various organs of the body, taking up from the blood such parts as will go to build up and add new vigor and strength to the various parts of the body, leaving the useless matter, or Excretions to be thrown off. The alimentary canal carries off the waste matter of the food together with the wornout, or effete matter which is poured into it through the *ducts*, or *tubes* from the various organs of the body—as a whole, known as *Excrements*, or *night-soil*. The kidneys secrete and Excrete the *urine*; the skin, or the little glands therein, Excrete the *insensible perspiration*, together with a large amount of solid matter which is absorbed by the clothes, or dries upon the surface, calling for bathing, or washing the whole surface of the body at least once a week in health, and more often in sickness, according to the nature of the disease, as will be seen under the head of **BATHING**. Of course other organs of the body throw off Excretory matter. I have named only the more prominent ones.

In a medium sized person of ordinary health, the intestinal canal will throw off, daily, about 6 ozs. of fecal matter—feces, or excrements—one-fourth, or thereabouts, of which will be solid, and the balance of a watery, or fluid nature. The kidneys, under the same conditions will pass about five times as much, in Summer, and still more in the Winter; but a considerable less amount of the urine is solid, as compared with the feces. The skin is accredited to throw off a larger proportion of the waste matter of the system than any other organ; and it has been proved that if the skin was sealed up so as to admit of no exhalation, or escape through it, of these wornout matters, a person would die in a very few minutes; and that if the kidneys were locked up—no secretion of urine—for one day *only*, death would also occur; and that although death would not so soon occur for the want of the regular action of the alimentary canal, yet, it is highly important that all these *Excretory* and *secreting* functions should be

maintained in as regular condition as possible, for if there is not a daily discharge from the bowels and kidneys, as well as a free and healthy action of the skin, these effete matters, are re-absorbed into the circulation, poisoning the blood and thereby producing fevers, inflammations, or tumors, or some other more, or less complicated disease. For an explanation of *Secretions*, see *Digestion* under the head of *Dyspepsia*.

E. MISCELLANEOUS RECEIPTS. E.

EARACHE.—SUCCESSFUL REMEDY.—Earache is quite often cured by dropping equal parts of sweet-oil and laudanum, warm into the ear, and applying hot salt in flannel bags, so as to keep the part constantly warm. Hen's oil will do equally well; and I believe it is not as likely to form a skin, as painters say, in drying, as the sweet-oil. Shake as used. Three, or 4 drops at a time will be sufficient.

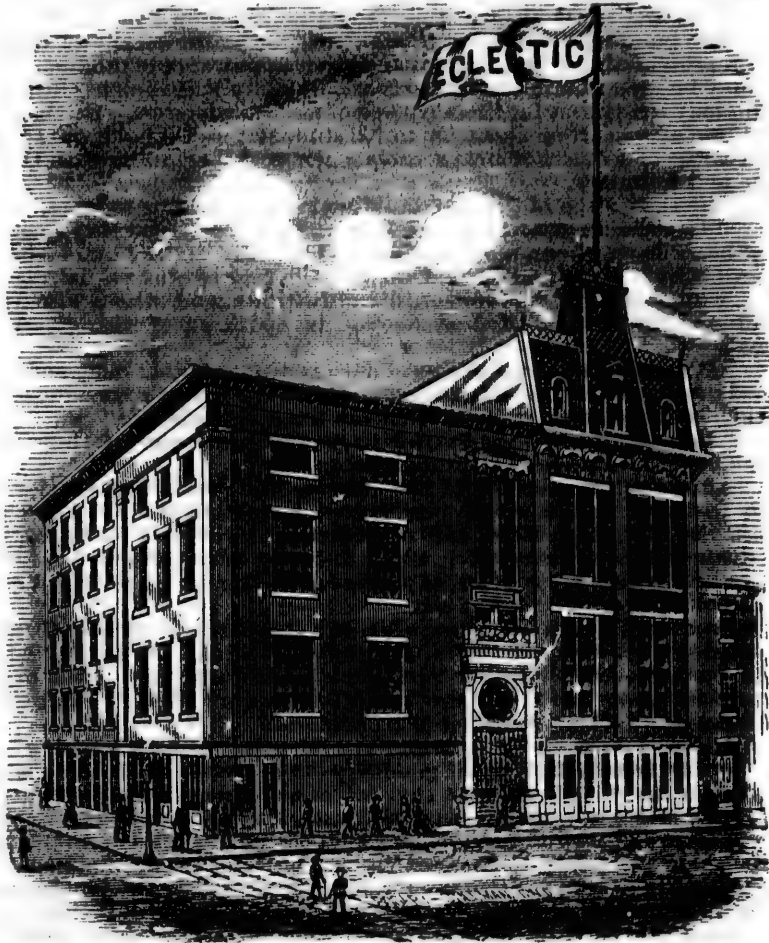
Another.—In severe cases of Earache take chloroform and laudanum, equal parts of each. Mix, and keep corked, for used. Shake when used, and drop 2, or 3 drops into the ear; then place a bit of cotton wool into the Ear to prevent the chloroform from evaporation, or moisten the cotton with it. It has proved very successful; although with small children, the chloroform may cause a little smarting for a short time. Be careful not to get too much of it on the cotton, if you do, and it causes more smarting than can be borne, take out the cotton and it will soon evaporate, and thus stop the irritation.

This last, with tincture of arnica, equal in amount to either of the others makes a valuable liniment for all ordinary purposes.

ECCLECTIC, OR ECCLECTICISM.—EXPLANATION.—The word Eclectic comes from Greek words which signify to pick out, or to choose out, or from that which already exists, and, in the commencement of what is now known among us, as the "American Eclectic Practice of Medicine," it was made as much a part of the practice to *reject* what was considered, or rather known to be *bad* practice, as it was to *choose* out, and continue the *good* plans already adopted in the general practice of medicine, say from 25 to 50 years back. And as it is common in our country, at least, to have *fathers*, as well mothers, Wooster Beach, M. D., of New York, may be correctly styled the *father of Eclecticism*. Morrow, Baldrige, I. G. Jones, and others, directly became co-laborers in the work, and these were soon followed by those whose names are still a power in this School, or branch of medicine, among whom are King, Scudder, and Freeman, who still hold Professorships in the Eclectic Medical Institute of Cincinnati, O., which, "Institute," may as truly be called the *mother* of Eclecticism, as that Dr. Beach may be the *father*. And as I have had several occasions to refer to this Institute, and may to some extent hereafter, in this Work, and as I honestly believe that every young man who is qualifying himself for the practice of medicine, will follow it more understandingly, and with better success, by attending, at least, *one course of lectures* in this Institute, I deem it very proper to make these remarks in this connection, and also to give an *illustration*, as seen in Fig. 22, of the College Building, the Charter, for the establishment of which, was obtained from the Legislature of Ohio in 1845, and the

Institute was soon put into working order, or rather I might say, was continued, for Prof. Morrow and others had been for some time giving lectures, in the city of Cincinnati, to such young-men as desired to join the *new*, or Eclectic School of Medicine. My own diploma, from this Eclectic Medical Institute, bears date of Jan. 27th 1858, after

FIG. 22.



NEW ECLECTIC MEDICAL INSTITUTE, CINCINNATI, OHIO, DEDICATED OCT. 5, 1873.

having previously taken a course of lectures in the Medical Department of the University of Michigan, an *illustration* of which I seen in another part of this Work. And this is the course I recommend to all who design, or prefer to *practice* as an Eclectic, and in honor, I must say that if graduates of *all* other Schools of Medicine would take

one course of lectures in the "Eclectic Institute," as it is generally called, it would abundantly pay them for the time and expense—the time would be 16 weeks, and the *expense*, besides board, would be only about \$100.

The building, however, which had been occupied as the Eclectic Medical Institute for a little over *twenty-five years* was burned, and rebuilt, or rather an entire new one built in 1871, which will account for the word *new*, in the title of the Illustration, as shown in Fig. 22.

The building stands upon Court Street, and as the cut shows an exact representation of the exterior, or outside appearance of the Institute, it may be seen that its dimensions are ample to accomodate all those who may resort to it for the purposes of *medical education*. Its classes, I think, average from about 150 to 200 students; and it holds *two terms*, or courses of lectures of *sixteen weeks*, each year, beginning with October and February.

The Dedication of the new building is an event long to be remembered by those in attendance; and I regretted very much that I could not have been there, but I could not leave the setting up of these pages, which was going on that time, to the care of others. Dr. Scudder, who is an active Professor in the Institute, and who is also the editor of the *Eclectic Medical Journal*, in speaking of the occasion says:

"It was the largest gathering of our practitioners ever held, and the good feeling, and enthusiasm for future progress, were cheering evidences that Eclecticism in Medicine has a vigorous life.

"Men came a thousand miles to see the new home of their old *alma mater*, and unite in wishing it prosperity."

After the organization of the *Alumni*, the previous graduates of the Institute, into a society for mutual benefit in Medical Science, Prof. Scudder, Prof. King, and others gave addresses of an historical and congratulatory character, which I should have been very glad to have laid before my readers, as a whole, but the nature of this Work will not allow it.

Prof. Scudder, in his address, made a comparative allusion to the gathering of so many of the former graduates of the *Old Institute* who had been working together with *her*, so faithfully, for a little over *twenty-five years*, and now came to the Dedication of the *New Institute*, as being the "Silver Wedding of Eclecticism."

And as a man and wife who have been living and laboring together for twenty-five years, generally have numerous children and friends to meet with them at their silver wedding, who take on new courage, and new hope for an equal success as they push out towards the golden wedding of *married life*, which with them, is an uncertainty, so may the *more than six thousand* men who have received a medical education in Eclecticism within the last twenty-five years, join in the hopes, and make still greater efforts for the increase of their numbers, and the still greater triumph of their principles between this time and that of their "golden wedding" which is *sure* to take place, for principles never die. But I will express a *hope*, at least, that the celebration of the "golden nuptials" shall not occur by the burning of the Institute just now Dedicated to the noble cause of *medical improvement*.

For the length of time since the introduction, of the *new*, or American Eclectic Principles of Medicine, and for the names of those

who commenced the movement, see the INTRODUCTION, page XXI, of this Work. I will close the subject with a few paragraphs from the address of Prof. King, delivered upon the occasion, above referred to; and would only add that the School of Medicine which pays the *greatest attention* to the truths so ably set forth in the following remarks is sure "*to be triumphant.*" He says:

"It is highly probable that the struggle for ascendancy still existing between the Old and New Schools of Medicine may terminate during the rising generation—and *that School*, alone, can expect to be *triumphant*—can expect to be the *people's choice*—that can exhibit and maintain in one unbroken and intimate connection, *the most correct science, the greatest skill, and the most uniform success,*

"If we fall behind *great names, high authority, antiquated teachings and customs, or scholastic prejudices*, as screens to conceal from our mental vision the glorious rays of truth and wisdom that emanate from other sources than our own—we can not expect to be the victors. If we imagine that knowledge can be grafted upon the human mind, as one tree upon another, or that it can be imbibed by mere contact, as with sponge and water—we must not expect to be the victors. If we vainly suppose that Heaven has specially favored us with all truth and knowledge in medical matters to the exclusion of every one else—we must expect to be vanquished. To win, in the great medical struggle for ascendancy now going on in the civilized world, we must *study*—we must *labor*—we must *investigate*. Instead of limiting our thoughts and investigations within circumscribed bounds, or rules, regardless of their correctness, or falsity, the usual result of past medical teachings, we must train ourselves to cultivate and maintain the utmost freedom of mental action—to listen with patience and respect to the views and opinions of *others*, no matter how seriously they may conflict with our own—to *test their soundness, and adopt them if correct*,—or if false, to pass them by without regard to theories, pre-conceptions, sects, interests, popular favor, or anything, save a knowledge of *truth*, and *truth alone*. Like the industrious bee, we must not confine ourselves to the circumference of our own hive, but must roam abroad, carefully gathering knowledge and truth wherever found, and preparing from them the *cera*" (the Latin for wax) "*and honey*,—the strength and beauty of Medical Eclecticism. In a word, we must be true to each other and to ourselves. Then, gentlemen, we may confidently anticipate that our cause will be the triumphant one, and the new temple we have this evening Dedicated to it, will not have been erected in vain.

"The presence of the ladies in our midst, on this occasion, a compliment which demands our grateful recognition, reminds us that in the success and progress of our cause woman has always manifested a lively interest, for upon these and the qualifications of its adherents, very often depend, not only her own safety in times of danger, but, still more frequently, the safety of those dearer to her than life itself. To her we owe our present existence,—the cultivation of our infantile plastic minds, preparing us for the contests of matured age, and giving to us impressions that can never be effaced by the finger of Time. the remembrance of which, even in advanced years, calls up the most grateful and pleasing associations. Without woman, how blank, how dreary would be life!

"When prostrated by disease, how tender anxious, and vigilant

are the attentions bestowed by the true mother, wife, or sister; her kindly, sympathizing words are a source of encouragement and consolation; and our physical, or mental sufferings are alleviated by the gentle osculations of her fair hands. The hour of anguish, of grief, or of misfortune, loses its bitterness, its severity, under the influence of her smiles and affection, and the darkness that surrounds us becomes golden sunshine. True woman is the polar star of man's existence, guiding him onward in the road to virtue and happiness; she is man's richest treasure,—the lovely link that binds him eternally to his Maker!"

Let young men, then, who contemplate the study of *medicine*, look well to these things in making up their minds which School they will adopt as their own—laying aside all prejudice, or preconceived opinions, and give *Truth* a chance to assert her rights, and they need have nothing to fear, as *Scientific Truth* is nothing more, nor less than what I call, in the title page of this Book, *COMMON SENSE PRINCIPLES*, or in other words, use a *sound practical judgment*, or what would appear to an intelligent and unbiased mind to be the correct course to pursue, upon a close and careful examination. Eclectics are willing to *stand, or fall*, as Common Sense shall dictate upon a careful consideration of the subjects, here set forth as *the Truth*.

For particulars as to the exact fees, cost of board, required qualifications, etc., address the Dean of the Institute, and he will send a Catalogue, and all needed explanations, without expense.

EDGE BLACKING—See Blacking for the Edge.

EFFERVESCENT DRINKS—For Fever Patients, or for Summer use.—To make an Effervescing Drink, for persons suffering with Fever, who always desire an abundance of cooling drinks, or for common Summer use, take the carefully expressed and well strained juice of raspberries, strawberries, currants, or other small fruits, of either kind, 1 qt.; and boil it into a sirup with 1 lb. of pulverized—loaf sugar; to this add 1½ ozs. of tartaric acid, when cold put it into a bottle and keep it well corked, when required for use, fill a half pint tumbler three-fourths full of cold water, and add 2 table-spoonfuls of the sirup. Then stir in briskly, a small tea spoonful of bicarbonate of soda, and a very delicious drink will be formed; drink while Effervescing. The color may be improved by adding a very small portion of cochineal to the sirup at the time of boiling.

These will be found very grateful to the palate and stomach of those convalescing from disease, especially from Fevers; for, physiological research has fully established the fact that acids promote the separation of the bile from the blood, which is then passed from the system, thus preventing Fevers, the prevailing diseases of Summer. All Fevers are "bilious," that is, the bile is in the blood. Whatever is antagonistic to Fever is "cooling." It is a common saying that fruits are "cooling" and also berries of every description; it is because the acidity which they contain aids in separating the bile from the blood, that is, aids in purifying the blood. Hence the great yearning for greens, lettuce, and salad in the early Spring, these being eaten with vinegar; hence, also, the taste for something sour, for lemonades, on an attack of Fever.

2. The same may be done by taking 2, or 3 oranges, or lemons, if their flavors are preferred, or at seasons of the year when there are no small fruits.

Take 3 oranges, or lemons, and pare off with a sharp knife, just the outside, then slice them into water, 1 pt.; add sugar, 1 lb., and boil into a sirup, as above, then strain, and use the same as the No. 1.

3. **Fruit Jellies.**—A spoonful, or 2 stirred into a tumbler of cool water, makes a very refreshing and nourishing drink for the sick, or as a beverage in cases of extra thirst.

4. **Effervescing Powder.**—Put tartaric acid, 25 gra. into one paper; and, into another colored paper, put bicarbonate of soda, 30 gra. dissolve these in separate tumblers $\frac{1}{2}$ full of cold water, into one of which a couple of table-spoonfuls of **simple sirup**, which see, has been added, then pour in the other, and drink while Effervescing. Any number of these Powders may be made at a time. The object of the different colors of paper is, that no mistake will be made. If no sirups are on hand, a tea to a table-spoonful of sugar may be first dissolved in one of the tumblers of water.

Speaking of *fevers*, and of the well-established fact that the *bile* may be separated from the blood by the use of the acids of *fruit and vegetables*, it is but proper to add, the eating of *fresh and perfectly ripe fruit* in Summer and Fall will have the same tendency; but the use of water, or other drinks, to any considerable extent, with them is not good. Sour milk is claimed to have the same tendency; but sweet milk, it is believed, has rather a tendency to increase "*biliousness*," while buttermilk acts much the same as watermelons; increasing more particularly the flow of urine.

I have never known any one injured by eating watermelons; but I have known some invalids to be "*set back*" by eating too much fruit; making it necessary, I should say, to use one's best judgment and discretion in their use. A ripe, sound apple will digest in an hour and a half, if the stomach is healthy and not over-loaded; but for an apple to decompose, ferment, in the stomach, or elsewhere, it throws off 600 times its bulk of gas. Hence, any one can account for the "*distress in the stomach*" sometimes experienced when the condition of the stomach, with "*dyspeptics*," is such that the fruit does not digest, but is decomposed, and distends the stomach with its gas, and finally runs off by diarrhea, etc. Then, I say, let *care, prudence, and judgment*, always be your companion and friend, especially if you desire to retain *health*, or to *regain* it, when lost.

EGGS.—Their Preservation for Family Use, or for Shipping.—There is probably no subject of *domestic economy* that has attracted more interest and consequent experiment than that of the Preservation of Eggs in their seasons of plentifulness, for seasons of scarcity. As in the Preservation of fruit, however, two things are necessary, i. e., that they be kept at a low temperature, and to prevent the access of air; but with Eggs, it is absolutely essential also that they never have been exposed to a high temperature, certainly not above 90° Fah. and it does not do well either to keep them in a place at all below freezing, as that injures the flavor, as well as excessive heat.

1. **Extensive Dealers in Eggs**, in this country and England, build brick vats in the basements of warehouses, water-tight, in which they place lime-water, made by slackening lime and adding water until they have a good strength, then drawing off the clear water into the vats, in which they place the Eggs and keep them under the wa-

ter. This brick vaulting, in a cellar, or basement, helps to keep the Eggs cool, and the lime-water excludes the air. But,

2. There has been some very recent experiments in Germany, under the superintendence of the Agricultural Department, which, there, it would seem, takes hold of minor, though not less important matters than our own, and has, I am fully satisfied, worked out a satisfactory and important, if not absolutely the best method of Preserving Eggs. These experiments were reported by a Mr. Atwater, from Berlin, to the *Hearth and Home*, in publishing which the editor also makes some very important suggestions, and explanations. They are as follows:

"It is by no means necessary that scientific experiments be elaborate and complicated in order that they may be convincing and useful. An illustration of this fact is given in some accounts that have lately appeared in certain German and French scientific journals of experiments that a couple of Germans have been making upon a very simple subject, and in a very simple but scientific way.

"The object of the experiments was to test sundry methods for Preserving Eggs—a very practical subject, as housewives and grocers often know to their cost. The injury which the Egg suffers in standing consists essentially either in the drying up, or decomposition of the contents, or both combined. In the first case, the moisture simply evaporates out through the shell; in the second, the oxygen of the air penetrates the shell, acts upon the contents, and produces the chemical change which we call rotting. The apparent remedy would be then to devise a means to keep the the moisture in and the air out.

"Says one of the experimenters above referred to: 'Various means are recommended for preserving Eggs, some of which are good, others poor. When immersed in milk of lime the Eggs keep well, but assume an unpleasant taste. The same is true of salt water, which likewise penetrates the shell and injures the flavor. In ashes, or bran they do not always keep well, and finally when exposed directly to the air, they dry up, and in time become totally ruined. It has been recommended, in order to prevent the drying up and the action of the air, to smear the outside with water-glass, white of Eggs, glue, or fat. To test the utility of these methods, some experiments were tried in my house. A number of Eggs were kept immersed for a long time in milk of lime (ordinary burnt lime in water), others in a thin paste of pulverized chalk and water, while others were smeared with diluted white of Egg, or with water-glass. The Eggs which were covered with white of Egg kept very well and retained the purest flavor. Those immersed in the milk of lime also kept well, but assumed a peculiar taste, resulting from the penetration of the milk of lime through the shell. The ones in the thin chalk-paste, as well as those smeared with water-glass, had, after a few weeks, a decidedly unpleasant taste and odor. This latter was especially true in the case of the chalk-paste.'

"The Director of the Agricultural Experiment Station in Carlsruhe has published in the *Journal Chimie et de Pharmacie* an account of some experiments which were more successful—linseed-oil and poppy-seed oil lightly rubbed over the shell with the finger being the means used. Twenty-two Eggs were taken for the experiment: 10 were smeared with linseed-oil, and 10 with poppy-seed oil, while the remaining 2 were left in the natural condition. They were then all

spread out, side by side, upon a layer of sand a quarter of an inch thick, and allowed to remain 6 months exposed to the air. The weights of the Eggs were taken at the commencement of the experiment, again at the end of 3 months, and finally at the lapse of 6 months, when all were opened.

"Those which had lain in the natural condition, not treated with oil, had lost in 3 months, $11\frac{1}{2}$, and in 6 months, 18 per cent of their weight. On opening, they were half empty, and had the smell of rotten Eggs. The rubbing on of oil had, however, had a good effect. Those treated with poppy-seed oil had lost 3 per cent of their weight in 3 months, and $4\frac{1}{2}$ per cent in 6 months, and were, on opening, full, and had no bad smell. With linseed-oil, the case was still better—the loss of weight being 2 per cent in 3 months, and 3 in 6—were quite full when opened, and had the smell of fresh Eggs.

"The explanation of these results is perfectly clear. Neither the chalk-paste nor the water-glass sufficed to keep away the oxygen, by whose action the contents of the Egg becomes putrid. The milk of lime sufficed to keep the oxygen out, but itself penetrated through the shell, and injured the taste of the Egg. In the latter of these cases, there was, of course, no loss of water from evaporation. The rubbing on of white of Egg and oil did not entirely prevent the escape of moisture, but at the same time did not permit the access of a sufficient amount of oxygen to materially decompose the Egg. The moral of these experiments would be—to preserve Eggs, rub them over lightly with white of Egg, or better, linseed-oil, sufficiently to saturate the pores in the shell, and let them stand until needed for use."

W. O. ATWATER.

BERLIN, December, 1870.

Thus it appears that all that it is necessary to do to have plenty of fresh Eggs in Winter, is to gather them daily, from the nests, to avoid the heat of Summer upon them, for any considerable length of time, and also to prevent such hens as have a disposition to "set," from thus spoiling them, then to oil them with linseed-oil, and after this to place them in a cool cellar, and for "six months" at least they will be as good as a fresh laid Egg. I think, however, that for what families would need for their own use, it would be but little additional trouble to pack them in salt, after the oiling, as salt is of a very cooling nature, and would help to keep the Eggs cool, and for dealers, they might pack them directly in oats, after the oiling to have them ready for shipping at the proper time, without additional repacking.

Notwithstanding that I am satisfied that the foregoing methods of preserving Eggs would prove satisfactory, yet, I will introduce 2 or 3 more items, which, although a little different, may prove equally effectual.

3. French Method of Preserving Eggs.—M. Burnouf recommends to an agricultural journal of France, the *Le Belier*, to dissolve in two-thirds of warm olive oil, one-third of bees-wax, and cover each Egg completely with a thin layer of this pomade with the end of the finger. The Egg-shell by degrees absorbs the oil and each of its pores becomes filled with the wax, which hermetically seals them. M. Burnouf affirms that he has eaten Eggs kept two years in this manner, in a place not exposed to too great extremes of temperature. He thinks also "that the germ may, in the same manner, be preserved for a con-

siderable time., Would not the linseed-oil be better than the olive, or sweet-oil, as that would leave more of a coat, or skin, upon the surface than the sweet-oil, the bees-wax however, would supply the necessary coating.

4. A Farmer's wife tells the *Scientific American* that "Eggs can be kept 2 years by dipping them in a solution made of quick-lime ("good stone lime") and salt; then packing in salt." She says:

"Take 1 lb. of lime, 1 lb. salt, and 1 gal. of water; and put the lime and the water in an old bucket, that you can keep for the purpose, stirring it until it is all dissolved, then add the salt. Keep it in the cellar; and when cool after the slacking of the lime, as it heats by slacking, it is ready for use. As the freshly laid Eggs are brought in, daily, stir up the mixture and dip in the Eggs, and see that they are all covered with the solution, which must be stirred from the bottom occasionally, while dipping and packing; then pack them small end downward, in salt. When wanted for use or for market, a little warm water will wash them clean. Some dip Eggs in boiling water, some grease them, and pack them in bran. I pack them as above, in August, as I can gather them, and have them in Spring just as good as fresh. They must all be kept in a cool cellar, a little moist rather than dry."

The lady seems to be posted on the question of keeping them cool, and of gathering them daily; and there is no doubt, in my mind, but what the lime and salt solution, together with the packing of them directly in salt forms a coat something of the nature of a varnish, which excludes the air, especially as when closely packed in the salt but little air, at most, can come in contact with them. She is undoubtedly more of a philosopher than she supposes herself to be. It will probably be found equal to the oil.

5. The *Ohio Farmer* informs us that in "August, they placed a thick layer of salt on the bottom of a large sap-bucket; oiled the eggs with fried meat fat, and place them in the salt in such a way as to prevent touching each other, little end down; then a layer of salt, then Eggs again, until the bucket was full, set in the cellar, used the last in the following May, and found them as good as fresh and need be—not a bad one amongst them."

If any one fails in preserving Eggs from Summer laying, for Winter use, with all these Receipts before them, there can be but one reason for it, and that is this, that they do not make the attempt. We have kept them very satisfactorily in salt alone, then certainly the other aids will increase the chances of success. There is however, another method of having,

6. **EGGS—Fresh Laid, in Winter—Method of Feeding.**—Take as many hens as you require Eggs, per day, and give them daily, finely chopped meat, a warm place to run in, and plenty of water, with a frequent supply of cabbage leaves, potatoe peelings, or small raw potatoes, etc., in the line of green stuff, and gravel, or chalk, or broken oyster shells, and no matter what breed, they will give you "Fresh Laid Eggs" every day, Summer, or Winter.

7. **Also Best Method of Summer Feeding.**—A Mr. E. Dwight of Hudson, Mich., claims to have discovered the secret of obtaining the largest supply of Eggs in Summer, or Winter, no doubt, if the feed was set in a warm place so as not to freeze, and he made his plan known through the Germantown (Pa.), *Telegraph*, in the following words:

"I fed my hens plenty of corn and got but few Eggs. I reasoned upon the matter, and happened to think that the constituent parts of milk and the white of Eggs were much alike. Now, it has long been known to milk-men that wheat middlings and bran are about the best of any feed to make a cow give milk; why not the best to make hens lay Eggs? I tried it, and since then have had no trouble. My mode of preparing the feed is to mix about 5 parts of bran with 1 of middlings. In the morning I wet up with water about 4 qts. of the mixture in a large tin pan, taking pains to have it rather dry, though all damp. This I set in a warm, sunny spot, south of their shed, and they walk up, take a few dips, don't seem to fancy it like corn, and start off on a short hunt for something better, but always coming round in a short time for a few more dips from the dish of bran. There is but little time during the whole day but one, or more are standing by the pan and helping themselves. I am careful to mix for them just as much as they will consume during the day. At night, just before they repair to the roost, I generally throw them about a pint of shelled corn, well scattered, so that each one can get a few kernels. If your hens don't incline to eat at first, sprinkle a little Indian meal on it. I would like all who complain of not getting Eggs to try my plan, and I think they will never be sorry."

METHOD OF FEEDING FOWL.—Pursued by The Country Gentleman.—Perhaps some may not be aware that *The Country Gentleman*, referred to here, is an agricultural paper. *The Cultivator and Country Gentleman*, but for short, is called the *Country Gentleman*. It is printed at Albany, N. Y., and is a reliable paper for *Cultivators* of the soil to have as a *weekly visitor*. Upon the subject of 'How to Make Hens Lay'—It says:

"People would better understand this matter if they considered for a moment a hen to be, as she is, a small steam engine., with an Egg-laying attachment, and thus there must be a constant supply of good feed and pure water, to keep the engine and its attachment up to its work. In addition to keeping before hens, who have complete liberty, a constant supply of pure water, Summer and Winter, I have found that during the cool and cold weather of Fall, Winter and Spring, a dough, compounded as follows, fed 1 day and then intermitted for 2 days, to produce excellent results:

"To 3 gals. of boiling water, add $\frac{1}{2}$ an oz. of common salt, a teaspoonful of Cayenne pepper and 4 ozs. of lard. Stir the mixture until the pepper has imparted considerable of its strength to the water. Meantime the salt will have been dissolved, and the lard melted. Then while yet boiling hot, stir in a meal, made of oats and corn, ground together in equal proportions, until a stiff mush is formed. Set away to cool to a milk warmth. Before feeding, taste to see that you have an overdose neither of salt nor pepper, and to warrant the hens being imposed upon with a mixture not fit to be eaten. The hen mush should not be saltier than to suit your own taste; nor so hot with pepper that you could not swallow it, were so much in your broth. Beware of too much salt, too much lard and too much pepper; and beware too, where the seasoning is not too high, of feeding this dough too long at a time. Let the hens be fed 1 day fully with it, then let it be omitted and the ordinary feed given 2 days, and so on, and the result will be satisfactory. *Take notice*—Hens fed in this way will be a good deal less inclined to set than when fed in the ordinary manner.

POWLS.—The best for Eggs, and General Purposes.—Everything taken into consideration, I believe there is no better Fowl than the Brahmas. They are good layers both Summer and Winter, and I think will thrive on as little feed as any breed we have which I am acquainted with. I have a flock of about eighty light Pea Comb Brahmas, which I give only half an ear of corn once a day, and the scraps from the table and they have laid all Winter. They are a very easy Fowl to raise, and very hardy. The Brahma is a good sitter and mother, and for a table Fowl they have no equal. Their flesh is very white, tender and juicy, and fully as good for the epicure, in my opinion as a turkey; and a good fair Brahma is as large as a small turkey, weighing at maturity from 8 to 14 lbs.

The Brahma, when well bred, is a handsome Fowl. Take a flock of about 75 Brahmas on the lawn pasturing, and they look more like a flock of sheep than Fowls, and then to see them marching into the roost at night-fall, one after another, is a sight worth seeing. They are a very docile Fowl, and bear confinement well; for they are not of a roving nature. They cannot fly over a common board fence, for their bodies are heavy and their wings very short and rounding at the point, so that they cannot support the body. But still there are other Fowls with good points as well as the Brahmas; but my honest opinion is that the pure Brahma is fairly entitled to claim to have more of them than any other breed of Fowls we have, and if any one of our readers have any breeds which they think are better than the pure light Pea-Comb Brahma, everything taken into consideration, we would like to hear from them.—*Western Farmer.*

The Brahmas are undoubtedly becoming the general favorite for Eggs, and for the market.

Eggs—To Pickle.—Hard-boil as many Eggs as will fill such a jar as you wish to keep them in. When cold, remove the shell and fill the jar, laying them closely. Then, having made some of the **SPICED VINEGAR**, which see, scalding hot, cover the Eggs with it, and seal up the jar for a month, when they will be fit for use. Should they at any time, after being opened, appear to be "flat," or not sufficiently sharp, renew the vinegar. Fruit jars that have been emptied during the Fall are very handy to use for this purpose. Eggs, thus Pickled, make an excellent relish with cold meats.

Those who do not prepare the "spiced vinegar," can take the best common vinegar sufficient, and put in some pepper-corns, all-spice, cloves, and a few pieces of cinnamon, all unground, and scalded in the vinegar, which will do very well. A few pieces of broken ginger-root may also be used, if desired. And if you do not get out sufficient of the flavor of the spices, in the scalding, put some of each into the jar, or jars, which will give the desired strength.

FELON—REMEDY.—A Felon, or whitlow is an inflammation of the finger, or toes, but more generally of the fingers, or hand, most commonly occurring upon the last joint, called phalanx, which, if its progress is not soon stopped, terminates in suppuration, and often in the destruction of the joint.

Cause.—Although it is generally believed that a Felon is caused by a bruise, yet, there is no doubt but what they also start by some obstruction under the *periosteum* (the membrane covering all bones) the same as all other inflammations begin, by some obstruction to the free flow of the blood.

Symptoms.—Deep seated and severe pain, with a stinging and pricking sensation, followed by throbbing and finally swelling and general inflammation of the parts.

Treatment.—It is undoubtedly a good plan to soak the finger in hot water, or hot ley, and if it was the whole hand, or even the whole body, it would be all the better; for, what will break up other inflammations will break up this disease; but taking the experience of a friend, who has suffered with several of them, I believe that next, after soaking the finger, or hand in hot water, the best thing to do is to apply a blister, made by applying the common spanish-fly blister salve, upon the spot, covering a good surface, and keeping it on until it raises a blister, it may be a day, or 2, or 3 days; but, if the surface is well softened by first soaking in hot water, it will work, although some times it works slowly, as the amount of disturbance underneath the *periosteum* is so great that it takes some time to draw off, or rather to change the internal inflammation to the surface by the *counter-irritation*, as it is called, with the fly blister.

But, if the pain, pricking and throbbing do not soon subside, as the blister begins to draw and finally works out, it may be taken for granted that the Felon had got too much of a start to be overcome; and then, the next thing to do is to make a salve, as follows:

Felon Salve.—Take a handful, each, of Indian turnip (*arum triphyllum*), also called wake-robin, Jack-in-the-pulpit, etc., and of blue flag (*iris versicolor*), the roots, and stew them in hog's lard sufficient to stew well. When done, strain and press out, and add tar, 4 table-spoonfuls, and Castile soap, half as much, simmer together, and apply this until the Felon breaks. After the Felon has broken, add rosin, beeswax, and tallow to this Salve for a dressing Salve.

And in cases where a Felon has made any considerable progress before anything has been done, begin with the Salve at once, and follow up, as above.

When great pain and an extensive swelling has taken place, a very great relief will be experienced by boiling several of the bitter herbs, as catnip, tansy, hops, hoarhound, and wormwood, in a considerable quantity of water, then removing the kett'e from the fire, and throw a blanket over the kettle, and placing the hand under the blanket so as to be well steamed for 20 or 30 minutes, 2 or 3 times daily.

FEBRILE DISEASES.—OR GENERAL FEVER.—Any disease attended with feverishness comes under the head of Febrile Diseases. The word comes, undoubtedly from the Latin *febris* (Fever), or from the French *fevere* (to be hot, to boil, to glow with heat). Fever has been considered a disease of itself; but the more recent and Common Sense view is, that it is only a *symptom* of disease; and also that it is a *favorable* symptom, or an effort of the system to correct itself, and that if properly aided by the laws of health (hygiene), and the "common sense principles" of *medicine* there will be but very few deaths arising from Fever, or from inflammatory diseases which are always attended with more, or less Fever.

Notwithstanding the great variety of Fevers, and inflammatory diseases attended with Fever, they may be correctly divided into only two classes, *idiopathic*, and *sympathetic*, the last usually called *symptomatic*. The word *idiopathic*, as understood by physicians in relation to disease, relates to a *peculiar*, or *certain condition of the system*, in con-

tradistinction of *idiosyncrasy* which signifies a peculiarity of the person; therefore, the *first* class always arises from a diseased condition of the *fluids* of the body, and the *second* from injury, or obstruction *in*, or to the *solids* of the system, as burns, bruises, broken bones, etc., or in cases of colds affecting different organs by which an inflammation is set up, as pleurises, pneumonies, inflammations of the brain, boils, and carbuncles, or any other swellings, etc., etc.

Causes.—In further explanation, I would say that whatever may be absorbed into the blood, from the atmosphere by the *miasma* (very fine particles of any putrifying matter of an animal, or vegetable character) floating in the air, all of which are noxious (injurious to the health); or effete (worn-out) matter of the system which may be left in the blood through a full, or even a partial suppression of any of the *secretions*, or a long retention, in the body, or any of the *excretions*, by which their absorption into the blood again takes place, are among the *fruitful sources of the idiopathic, or first class of Fevers*. In support of this position, in regard to the *cause of Fevers*, I will quote from Prof. Scudders "Eclectic Practice of Medicine," as follows:

"What change in the fluids of the body will give rise to Fever? I know of but one, and that is the presence of some material that has so far lost its vitalization" (life giving power) "that it cannot be applied to the nutrition" (support, or nourishing) "the textures, or serve any purpose in the animal economy. Such material may be generated within the body, or it may be introduced from without."

The two following illustrations, I trust will be sufficient to satisfy most persons of the correctness of this position, that the poisoning of the blood will produce Fever. Even the smallest quantity of small-pox virus, or poison, when placed in contact with the blood, by vaccination, multiplies and increases itself by a law of its own nature (given to it by the hand of Divine wisdom) until a sense of lassitude and weakness comes upon the person, with loss of appetite, diseased vitality, arrest of the secretions to a greater, or less extent, until the powers of the system seem to be hardly sufficient to circulate the blood; but finally the recuperative powers (powers tending to recovery) inherent, or belonging to the system, come to the rescue, and re-action, or Fever is set up and the poison is thrown upon the surface, and kept there by this re-action, in the form of a pustule, or little ulcer, until the skin is renewed under it, and it is thus excluded, or removed from the blood, and the patient recovers; while, on the other hand, if the poison is introduced by taking the small-pox, itself, it is increased to so much greater extent that very many persons loose their lives under its effects.

Again:—A person has been laboring, or playing to such an extent as to cause much excitement of the system, calling for an unusual amount of *secretions*, and *excretions*, manifested by the free perspiration, and an increased flow of urine, etc.; and as a natural consequence, from the increased exercises, there has been a large amount of material of the body worn-out; but, now the game is finished, or the necessary labor is accomplished, and the person sits down to rest without sufficiently re-clothing himself to avoid "taking cold," and the result is, the perspiration and other secretions are checked to such an extent that the worn-out matter is retained in the blood, and the blood is driven from the surface to some internal organ, and a pleurisy, or

some other inflammation is set up, and a *Fever* is established to endeavor to correct the difficulty which has arisen in the blood and other fluids of the body.

The Second, or *sympathetic* class of Fever is the result of injury to some part of the body, as mentioned above, by *burns, bruises, wounds*, etc., or, from an *inflammation* of some of the different organs, or parts of the system, which are all more, or less connected together by the system of *sympathetic nerves* distributed throughout the body, as explained under that head. But fortunately for the human family, contrary to the early established, long continued, and still prevailing ideas among that class of physicians calling themselves *regulars*, that the different named varieties of Fever, demanded a *decidedly different treatment*, yet, were only treated upon the *calomel* and *blood-letting* plan, "common sense" has come to the rescue of Fever patients, and by a successful practice of nearly *fifty* years, has established the fact that Fever is a unit, *i. e.*, it is a *favorable symptom* of *diseased blood* or *injured body*, and comes to assist in the relief of those difficulties, and calls for help of such a *uniform, or regular character*, that the *treatment need vary but very little in any of its varieties*—in other words, whatever will purify the blood, by eliminating it (thrusting out, throwing off) from the system, by *restoring* the secretions, passing off *regularly* the excretions, and equalizing the circulation will cure, or remove Fever. Of course, however, we are willing to acknowledge that, from the long continued success of the American Eclectics, in treating Fever and other diseases *without calomel, or blood-letting*, and from the success that *nature* has had under the "little-pill" treatment of the homeopaths the "regulars"—Alopaths—have, to a very large extent at last, abandoned their *life destroying* practices of always using calomel and the lancet, so that they, of late, have much better success than formerly.

Remote Causes of Fever.—As very much may be done to prevent disease ("prevention is *better* than cure") by *avoiding* the cause, it will be very proper, I think, to enter a little more fully into an explanation on the more remote causes of Fever before I enter upon its symptoms and treatment.

Whatever Cause, then, that will produce a variation from a condition of health, will, generally, have a tendency to produce Fever; perhaps none more so than *cold* and *dampness*, especially when both occur together and are continued for any considerable length of time. To avoid danger from these sources then, let nothing but absolute necessity compel any one to expose themselves to the chilly dampness of the mornings, or evenings, in low and marshy situations, especially so, unless sufficient exercise is being taken to overcome the chilliness and keep up perspiration. In the high latitudes, like the Northern parts of Canada, Michigan, Wisconsin, Minnesota, and so on, in the same range, to the "far West," where the air is *dry*, a much greater degree of cold can be borne, without injury, than can be sustained in the lower and more marshy situations of the Central, or Southern States.

Heat is also a fruitful source of Fevers, especially so in the last mentioned class of States. Lying upon the ground, even in the noon hour, as some make a practice of, is most certainly, a very dangerous invitation for disease to visit those who do it.

Marsh, or Vegetable Miasma, is considered to be a direct Cause of Fevers, and is to be avoided largely, at least, by not being

exposed, as above mentioned, to the morning, or evening fogs of low, marshy districts.

Animal Miasma is also a source of Fevers, as shown in the neighborhood of battles, where the slaughter of men and horses has been so great that decay and decomposition takes place before they can be buried; hence, should be avoided, even on the small scale—every dead animal, no matter how small, should be buried.

Miasma, or Effluvia of the sick, especially those laboring under a low grade of Fever, as *typhus*, either from the *body*, or that arising from the *excretions*, is considered decidedly injurious, and in some cases even contagious (catching), to avoid which the most thorough spongings of the body, 2, or 3 times daily, according to the condition of the patient, with cool, or tepid water, broken with *weak-lye bay-rum*, camphor spirits, or something that shall cleanse the surface and stimulate the skin to vigorous action, and thereby help to restore a healthy secretion from the surface; and the removal from the room, and from the house, at once, of all, or any of the *excretions*; and also the airing, or ventilation of the room, that any injurious effluvia thus arising may be at once cleared from the air, otherwise it comes again into immediate contact with the blood, through the lungs, and keeps up the already poisoned condition of the system. With these explanations and cautions, I pass to the

Symptoms of General Fever.—After the languor, weakness, and restlessness of a day, or two, or more, as the case may be, as mentioned in the commencement of the subject, above, the first striking Symptom of an approaching Fever will be a *chill* of greater, or less severity and continuance, according to the greater, or less disturbance of the system, which will, to a certain extent, indicate the severity of the Fever, if nothing is done to mitigate, or relieve the suffering from the attack; the skin becomes pale and shrunken, or contracted in its appearance, and sometimes one is led to think that a stream, or streams of cold water are being poured down the back. And as soon as this chilliness begins to subside, the circulation begins to increase; greater, or less heat of the surface is produced, the strength is gradually diminished, and considerable thirst is manifested, the pulse also being increased in *frequency* and *hardness*. By a *frequent* pulse, I mean one faster than in health, which is from *sixty* to *eighty*; and by a *hard* pulse, one that resists the pressure of the finger with more than a healthy force, as though it was bound to pass under the finger, no matter how hard the pressure. There may also be considerable distress of the stomach and other internal organs; and also great aversion to making the least exertion, of body, or mind, the patient willing to lie down and caring but little whether anything is done for his relief, or not; but, let it be known, and remembered, that the greater the *indifference* to their own welfare, the greater the necessity for *immediate* attention to the case.

If the Fever is permitted to run on without relief it soon diminishes the secretions, urine, perspiration, etc., and parches and dries up the skin, and generally dries up and hardens the feces, causing costiveness and its accompanying injurious effects by retaining the poison in the system, calling for the following course of treatment which will restore and harmonize all of the functions (the appointed action) of all of the different organs of the body, without which good health cannot long be maintained.

Treatment of General, or Continued Fever.—The true principle of Treating any disease is to begin with it just as soon as possible after the symptoms, or manifestations of a departure from a healthy condition indicates its approach; for, in ordinary, or common cases, mild means, gently, but quickly applied, will restore the secretions, and thus throw off the approaching disease; and especially will this hold good in Fevers, and also in inflammatory diseases.

Sweating.—If no time is lost in commencing the Treatment, as soon as the languor, weakness, and restlessness, which always manifest themselves on the approach of a Fever, but a gentle yet an efficient perspiration is established, with the other accompanying Treatment, the disease will not in *one* case out of *ten*, if in *one* case to *one hundred*, ever become established, "but, taken by the foretop and unceremoniously pitched into the streets," scarcely even to make a feeble effort to return, at that time, at least. For an explanation of the plan of "taking a sweat," see **SWEATING**, remembering at the same time, that according to the severity, or mildness of the symptoms which indicate the approach of the disease, should be the length of time, varying from 15 to 30, or 40 minutes, to keep the patient in the Sweating bath, and also the length of time that an increased amount of clothing should be kept over the patient after they are placed in bed, before wiping them and putting on dry under clothing, as there explained.

Emetics.—After the sweating has been accomplished, if there is any considerable *nausea* at the stomach with an effort to vomit, aid this effort by giving an Emetic that shall only act gently and mildly upon the patient, as described under the head of **EMETICS**, which will generally, entirely remove the nausea, and greatly aid in removing the cause of the approaching Fever.

Cathartics.—Also after the action of the emetic has subsided, and bed time approaches, let a mild and gentle *Cathartic* be given, which shall, during the following morning, carry off any accumulating excretions which have been poured into the intestines from all the various organs whose actions have been considerably increased by the sweating and emetic processes; for the intestines have a complete set of little tubes opening into them from the various parts of the body, by which the worn-out, or effete, or poisonous matter of the blood is carried out of the system; but, if not carried out, is again absorbed, thereby adding to the diseased condition of the system.

Strengthening Food.—After the administration of the above plans of Treatment, supposing them to have had the desired effects, the patient will feel the necessity of *Strengthening food*; but, let it also be borne in mind that the approaching disease, and the Treatment, have both had a tendency to *weaken* the digestive powers, and consequently, the food, which may at first be given, should be of a liquid form, as well as nourishing, or strengthening in its character. If any should be craved before the operation of the cathartic, let it be corn meal gruel, as this will aid the operation of the medicine, after which it may be beef-tea, or arrowroot, and a tea to a table-spoonful of wine, or brandy, or a little beaten egg with a little fresh milk and a little spirits in it, as may be on hand, toast-water, etc.,—never, however, overloading the stomach with *solid* Food, or taking it in any form at first.

As a general thing, the above plan will prevent an attack of Fever, inflammation; and the object of having a book of this kind in the house, is to be able to take these precautions "in time;" for if they are

neglected for 3 or 4 days, and then perhaps you have to send 5 to 20 miles for a physician, and in a sickly time, be, perhaps, 24 hours in getting him there, as I have often known, the disease has become pretty thoroughly established, and consequently a longer time will be required to overcome it, and a somewhat different and additional Treatment will also be required.

Treatment after the Establishment of Fever.—We will therefore, now consider that the symptoms of approaching Fever have been neglected and actual re-action—Fever—has been Established; the skin has become hot and dry; the urine scanty and high colored; the bowels constipated; the mouth has a bad taste and has become dry; the tongue is coated with a yellowish coat of a furry-like appearance, with, perhaps, slight nausea, or may be an irritable stomach; considerable thirst; pulse frequent, perhaps full and hard; and probably a sense of oppression, or weight at the stomach, and pain in the head, back, and limbs, and a general prostration of the strength of the patient has taken place; and, if nothing is done to relieve them, these symptoms will all increase in intensity and severity for 3 or 4 days, after which time, if there is no complications by an inflammation of any particular organ, there will be but little, or no further change seen until the 8th or 9th day, the blood will become so thoroughly poisoned that the low, or *typhoid* symptoms will be established, and much greater danger will arise in the case.

But, as a general thing, this Fever may be broken up before the *typhoid* character shall be developed; *first*, by lessening the frequency of the pulse, which lessens the heat of the body; *second*, by a course that shall establish the excretions; and, *third*, to give strength to the system.

First, then, to lessen the frequency of the pulse, give a *tea-spoonful every half hour*, of the following *Febrifuge* mixture:

Febrifuge.—Tinct. of veratrum viride, 1 dr. (1 ordinary tea-spoonful, 60 drops), tinct. of aconite, $\frac{1}{2}$ dr.; water 20 tea-spoonfuls; and simple sirup, 10 tea-spoonfuls, mixed and given as above, from *one, to two, or even three, or four days*, as the case may demand, or until a slight perspiration has taken place, and at least a *little* increase is discovered in the secretion of urine, and also permanent lessening of the pulse is easily distinguished, which, although it will be slow will be positive and permanent, at the same time an increased strength of the pulse will also be experienced, *provided, also*, that, during this time, the whole surface of the patient has been sponged, 4 to 6 times every 24 hours, with a weak-lye water, or spirits and water, or spirits of camphor, whichever is most convenient, and wiped dry each time, without exposing the body too much, during the sponging.

Second, as the foregoing Treatment will be found to give a comfortable circulation, and to cool and soften the skin, the establishment of the secretions of the skin will be aided by giving any of the mild *Diaphoretic* teas, as found under that head, with occasionally, as the patient may desire it, cool lemonade, or orangeade, or any of the *EFFERVESCENT DRINKS*, which see, alternately with the teas, and the kidneys will be further aided in the secretion of urine, by giving once in 2, or 3 hours, or oftener, or further apart, as the case may demand, of the acetate of potash mixture, as found under the head of *DIURETICS*; and also a gentle *cathartic*, or an *injection* of salt in warm water, to aid in carrying off any accumulating feces, which

would otherwise irritate the bowels and continue the poisoning of the blood by re-absorption into it.

Third, and lastly, to strengthen the nervous system and support the general strength of the patient, according to his, or her natural robustness, or weakness of body, let from 1 to 2 grs. of quinine be given every 2, or 3 hours, which will increase the natural strength, and also prevent debility, or weakness from the sweating and increased flow of urine and the increased secretions of the other organs of the body—in other words, *restoring and maintaining* the general health.

In all cases, however, where the tongue is *heavily* coated with the yellowish fur, with sickness and considerable oppression of the stomach, the *first and best* thing to do is to give an emetic, otherwise the low, or *typhoid* symptoms will soon be set up, and great prostration of strength will speedily occur. After the action of the emetic, should the irritability of the stomach continue let a mustard plaster be applied, over the stomach and to the feet and the salt and water *injection* be given until a tolerable free evacuation of the bowels has taken place; then the foregoing general Treatment may be followed with great hopes of ultimate success, remembering, however, in all cases of disease, no matter what it may be, the extremities (feet and legs—hands and arms) must be *kept warm*, by the use of flannel wrappers, hot irons, bottles of hot water, ears of boiled corn (any, or all of which must be properly wrapped with cloths to prevent burning), friction, etc., etc., as the case may demand.

Also, in all cases of Fever, any complications that may arise, as diarrhea, costiveness, nausea, pains in the head, or pains, or inflammation of any organ, must be controlled by the usual remedies and plans, the same as though they occurred by themselves and independent of any Fever, or other disease.

Although the description and Treatment, above given, would enable most persons, of ordinary judgment, to understand and cure all ordinary, or common Fevers; yet, it may be best for me to give a more particular description of the more common divisions of *febrile diseases*, as followed by most writers at the present time, although the *general* Treatment must necessarily be very nearly similar. I shall make only the following distinctions, or divisions of the subject, giving the more particular *symptoms* which distinguishes one Fever from another, and also any *difference* of Treatment that may be required under each appropriate head:

Typhus, or *Typhoid* Fever, *Remittent*, or *Billious Remittent*—*Intermittent*, or *Fever and Ague*, and *Yellow Fever*. First, however, a word of explanation as to the *meaning* of the words, or *names* used to describe the different varieties of Fever, because it is no use for any man to talk, or write, unless he is understood; and for this very reason I have adopted and carried out this plan throughout this whole Work (for but few will have medical dictionaries by them, by which only, could the meaning of very many medical terms be ascertained; and even in a *glossary*, if added at the back of the book, according to the present custom of those who write medical books *for the people* must necessarily be short, and will over look, or not give many terms used in the work):

Typhus comes from *stupere*, and means to be struck senseless; hence, in our language, means a lessening of the sensibility—a *low* and depressed condition of the *nervous system*, as found in this, or *Typhoid* Fever.

Typhoid, means *like-typhus*—a lowgrade of Fever, or a weakening of the vital powers of the system.

Remittent, means to become *less severe*; hence, in Fever, to have less Fever at some certain period of each 24 hours.

Intermittent, signifies an *entire cessation*, or stopping for a certain period, as in Ague and Fever.

Typhoid Fever.—It will be proper to state here that it matters not what kind of Fever may be set up in the system, whether *idiopathic* (peculiarity in the condition of the system), or whether it be *symptomatic* (arising from sympathy, from injury, or inflammation), if it is permitted to run sufficiently long, the low, or Typhoid character will be established, *i. e.*, the blood and other fluids will be poisoned, and their decomposition (disintegration, or destruction) will be commenced; and, as the *excretions* are more, or less retained in the system from the sluggishness of all the excretory organs, at the same time also the *secretions* are for the same reason, imperfectly carried on, a rapid breaking down, (crushing, or destruction) of all the tissues (the elements, or first principles of organization) of the body, and this worn-out, or *effete* matter is retained in the blood, causing the further prostration of the general system, as shown in all *Typhoid*, or long continued Fevers.

Especial Causes of Typhoid Fever.—The *predisposing and especial Causes* which produce *Typhoid* symptoms at the beginning of the disease, are admitted to be animal miasmata (animal matter in a state of decomposition), and such other things as particularly depress and weaken the vital powers, or energies of the system, and especially so in those persons of a weak and feeble habit, or condition of body, which is natural, or may arise from dyspepsia, or from other causes that prevent the assimilation (the converting into the substance of the organs) of the food to the support, or building up of all the organs of the body. The immortal Liebig says that "An animal substance in the act of decomposition, or a substance generated from the component parts" (the parts of which the body is composed) of a living body by disease, communicates its own condition to all parts of the system capable of entering into the same state, if no cause exists in these parts by which the change is counteracted, or destroyed." This accounts for the rapid spread of Typhoid Fever in jails, hospitals, the neighborhoods, of battle-fields, from dissecting wounds, and from the room of a person suffering with Typhoid Fever, whose neglect, or the want of a correct knowledge of the fact, or where for the want of proper assistance, the room is left *unventilated*, the excretions are not *removed*, and the whole filth arising from the diseased person is allowed to *remain* in the room, thus continuing, or adding impurities to the *air*, by which the patient, and all others coming into the room are compelled to breathe into the lungs, thus, at once introducing these impurities *into the blood*, to again perform their *legitimate work of further destruction*..

Of course, this form of the disease may also arise from vegetable miasma in connection with some peculiar feeble, or debilitated condition of the system of any person, as from a want of strength, arising from *dyspepsia*, or *inflammation of the stomach*, when the food does but little good for the want of proper digestion and assimilation, or from the mismanagement of other diseases, by which these difficulties, or any other considerable feebleness of the system is brought about.

Symptoms.—It is not necessary to repeat here, all of the Symptoms of Fever, as at first given, but simply to remark, that the development of Typhoid Fever may occupy 2, 3, or 4 days, and that if the languor and feebleness, or the restlessness and depression are very considerable, and also accompanied with considerable debility, giddiness and dulness, with an impaired appetite and nausea, and also considerable oppression at the stomach, and still the patient very indifferent about his, or her own condition, with, perhaps, some soreness and stiffness of the muscles, and finally coldness of the hands and feet, it may be set down as approaching Typhoid, and that relief, or assistance has already been neglected *too long*; and now, most likely, reaction (Fever) will be set up, the pulse become quick and sharp, ranging from 80 to 120 per minute, tongue covered with a dirty fur, bad taste in the mouth, urine scanty, although the bowels may be natural, or they may be costive, or they may be loose. The heat of the surface may be considerable, or it may be only slightly increased, with cold extremities; the eyes dull and heavy; the countenance also dull and expressionless, or it may be flushed; the head, perhaps, confused and giddy; and, if the disease is not relieved, *delirium*, or *typhomania*, as physicians call it, will, in a few days, be established; and, in this disease, if permitted to run any considerable length of time *Peyer's glands* (small glands situated in the lower part of the intestines, called *Peyer's*, because first described by him), almost always become inflamed and ulcerated (sometimes eating entirely through the intestines causing death) consequently the additional Symptoms of diarrhea and *tympanitis* (swelling, or bloating of the bowels) are found to manifest themselves.

In 10, or 12 days there may be an eruption of rose-colored spots upon the abdomen, and little pimples upon the neck and chest filled with a watery fluid, giving them an appearance of drops of sweat, therefore called *sudamina* (sweat drops); the tongue may become red and sore, or dry and almost black; the teeth becoming covered with *sordes* (from the Latin *sordere*, to be dirty, or foul), delirium also taking place; and the ulceration in the intestines having accomplished its work of eating through, the patient may sink at once. But if the disease proceeds unfavorably into the third week, the delirium becomes low and muttering, with great exhaustion, the patient sliding down in the bed, spasms, or twitchings of the muscles, bowels passing more, or less blood, with reddish purple spots upon the surface. But, upon the other hand, if recovery may be expected, the countenance will improve and heighten, the pulse become moderate, the tongue clear off, and the excretions, or discharges will assume a more healthy appearance.

Treatment.—Typhoid Fever, especially calls for *early* and *correct* Treatment, as the tendency is so great to the poisoning of the blood, and consequently the whole system, by the breaking down of the tissues, or organized parts of the system whereby the whole of the fluids of the body become loaded with these impurities, or worn-out matter, which seeks, but without medical aid, seldom finds, a sufficient exit from the body to restore health.

First, then, if taken early, I always begin with a moderate *sweating*, which see; and if considerable oppression of the stomach, follow it with an *emetic*; for if this is the case, and the accumulating viscid (sticking and tenacious) mucus, undigested food, etc., are left in the

stomach, no matter what the other Treatment is, it will seldom prove satisfactory; and it will greatly add to the danger of the bowel ulceration, diarrhea, etc. Let the emetic be thorough, by aiding it with the warm and stimulating *Diaphoretic* teas, which see, keeping up a little *Diaphoresis* (sweating) by using the warm, or rather the hot foot-bath, with mustard in it if necessary, and hot irons, or bottles of hot water to the extremities, and body if a slight perspiration cannot be induced, or kept up without it.

Second, as soon as the stomach has become quiet from the effects of the emetic, and a slight degree of perspiration has become established:

Take tinct. of veratrum viride, 1 dr.; tinct. of aconite, $\frac{1}{2}$ dr.; water, 4 ozs.; simple sirup, 2 ozs.; mix, and give a tea-spoonful every hour, until the frequency of the pulse is considerably lessened, then once in $1\frac{1}{2}$ to 2 hours, as may be necessary to hold it there, and help to reduce it to nearly a healthy standard.

The aconite is here increased over that used in the the Continued Fever, for the purpose of quieting the greater nervous irritability of this form of the disease.

To reduce the heat of the surface and help reduce the Fever, let the weak-lye spongings be made 4 to 6 times every 24 hours, according to the heat of the surface and the restlessness of the patient; and if the extremities are cold, or have a tendency to chilliness, let the CAPSICUM, or CAYENNE AND WHISKY, which see, be well rubbed upon the feet, and limbs, and as high up as the cold clamminess extends, and hot drinks, or other artificial heat, as most convenient, be applied until this is overcome; for, unless the circulation becomes equal, all other Treatment will fail. And if this coldness of the extremities prevails to any considerable extent for some considerable time the *sedative*—veratrum and aconite—doses will have to be lessened, otherwise, although the pulse will be lessened, yet, it will also be too much weakened, by the congestion of some internal organ by the accumulation of the blood upon it, which refuses to circulate in the extremities, while, on the other hand, if the general circulation is good, consequently the pulse high—120, or more—and the extremities warm, or hot, like the surface of the body, the dose of the veratrum and aconite may be increased by one-half, or so, or the regular dose given every half hour for a few times, until the pulse is brought within a reasonable range, or not above 90 beats, at most, to the minute; then, the regular, or medium dose may be depended upon, by watching all the particulars of the case, and adopting the various measures needed to keep as near a healthy standard as possible.

And, "by the way," diarrhea is more to be guarded against by the Treatment than costiveness, as before explained, Peyer's glands have a tendency to ulcerate, in Typhoid Fever, and this tendency must be carefully watched and avoided as much as possible by this means; and, in case of costiveness, injections of salt and warm water—1 table-spoonful to a pt.—and as much injected as the bowels will retain, and repeat after $\frac{1}{2}$ an hour, or an hour, until a free passage of the feces is obtained, will be better than to administer cathartics from their tendency to irritate both stomach and bowels.

In case of *tympanitis* (swelling, or bloating of the abdomen) bags of hops, hot, or hot flannels, or other, hot applications may be applied, and if excessive, a *gutta-percha* tube may be introduced into the rectum

(from *rectus*, straight) the termination of the large intestines, provided that an injection containing a *little* sweet-oil, a table-spoonful or so, or melted lard does not effect a discharge of the wind, or gas accumulations. This gas being retained by the contracting force of the intestines, may generally be relieved, also, by the administration of 10 to 20 drops of the tincture of lobelia, every half hour, or hour, for a few times, by mouth, or by injection, according to the irritable condition of the stomach. Whatever will relax the muscles will let off this gas, and relieve the patient.

If the head is very hot, or painful, bathe it frequently with cold, or cool water, or with warm water and afterwards fanning it to make it cool, as the feelings of the patient will best endure.

The strength must be supported by light and nourishing food as much in liquid form as possible, and in case of great prostration, with beaten white of egg and brandy sweetened and given by the tea-spoonful, see *Typhoid Pneumonia*, or by broth and wine, as most convenient, or the taste of the patient will be the best suited with; and as the pulse is reduced by this Treatment to nearly a healthy standard, there will be an increase in the secretions, which should now be aided by *Diaphoretics*, and *Diuretics*, which see, and the strength must now be aided to bear these increased secretions, with, in addition to the *egg* and *brandy*, or *both*, and *wine*, by the help of the quinine, as recommended in CONTINUED FEVER, as often as once in 2 to 3 hours. A little good hyson tea, with a little milk, will do as much as anything to correct, or alleviate the bad taste in the mouth, and if made weak, and a cracker, or two, crumbed in, it will thereby become nourishing, and may be used occasionally through the disease.

And now, a word in closing the subject of Typhoid Fever—great watchfulness, or in other words, if good *nursing* is not given, it does not matter much what the Treatment is, it will very often fail, and the patient sink into *stupor*, *delirium*, and *death*; but with the *foregoing Treatment* and *careful nursing*, beginning *early* in the commencement of the disease, not *three* in *one hundred* need to fail, although it is looked upon as a terrible enemy to life, and with the *common Treatment* and the *neglect* of the patient, it *truly* has been.

Remittent, or Bilous Remittent Fever.—As before explained, I now come to speak of a Fever that during some part of every 24 hours, and generally in the morning, *becomes less*; and, hence, gives us an additional advantage over it, in attempting its cure. It is always preceded by a *chill*, and after a day, or two, lassitude and weakness upon exercise, or exertion in any kind of labor, walking, etc., will be experienced.

Cause.—Marsh *malaria*, or decay of vegetable matter which loads the air by which the blood is contaminated, or poisoned; or changes from *heat* to *cold*, by which the *secretions* are lessened, or checked, impairing the *vital*, or *life power* to such an extent that a *re-action* is called for to relieve the oppression, are supposed to be the causes of derangement in the liver and other organs, by which a large amount of bile is retained in the system, causing this variety of Fever. It is generally quite mild in the North, especially where the general surface of the ground is dry and rolling; but in the South, and where the general surface of the country is low and flat, quite severe, and often of a *congestive* and *dangerous* character.

Symptoms.—The principal difference in the Symptoms of this variety of Fever, from others, may be found in the *capriciousness* (changableness) of the appetite, sometimes craving food, and at other times loathing it, and the *bitter taste* of the mouth, with a more constant tendency to *nausea* of the stomach, and pretty constant *costiveness* of the bowels and more *severe pain* in the head, back and limbs. The urine also is usually more, or less tinged with bile. The chill is usually of only an hour, or two's duration, except in the congestive variety, when it may be, and generally is longer. As above mentioned, also, the Fever becomes considerably less than usual, for a few hours during some period of each day, or night, during which time sleep is sought, as the patient will experience quite a degree of comfort and relief during this *remission*.

Occasionally there is *tympanitis*, swelling, or distension of the bowels, in Remittent and in Typhoid Fever, the same as in inflammation of the bowels, which if not speedily overcome, is followed by head Symptoms from the obstruction of the circulation. M. Savet, a celebrated French physician administers, for this, injections of cold water; and if this does not effect a discharge, or passage of the gas, he applies a cataplasm, or poultice to the abdomen, which has been well sprinkled with fine table-salt, claiming that this will cause intestinal contraction almost instantaneously, which will cause the expulsion of the gas. It would certainly do no harm, and has undoubtedly done good, although I have not had an opportunity of testing it; for if a case is properly treated, it never reaches this stage.

Treatment.—As soon as the observation of these *special* Symptoms establish the fact that you have Remittent Fever to deal with, give an *emetic*, and after its thorough action, follow it with a mild but efficient (*cathartic*, which will prepare the way for the *veratrum* and *aconite*; spongings of the surface, etc., as directed in the preceding variety, combating any particular local difficulties by the same recommendations as there found, *i. e.*, for severe pain and heat in the head, cool applications, or warm water with fanning; and if bad, mustard to the feet; for nausea, mustard over the region of the stomach, etc., etc., and during the *remission*, give quinine sufficiently often to get 8 to 12 grs. given after the Fever begins to lessen before it begins to rise again. Two, or 3 doses of 3, or 4 grs. to the dose must be taken during the remission to have a proper effect in cutting the Fever short, within a reasonable time.

In all Fevers the room should be well ventilated, and if in damp weather, it will be proper to have a fire, in a fire place is preferable to a stove, with fresh air, and the clothing should be changed sufficiently often to keep it clean, having been first well aired by the fire before putting them on, bedclothes as well as body-clothes, and the room also kept neat and clean; noise, and even whispering about the room should always be avoided as much as possible; the food, although but little may be taken, should be of easy digestion and mostly of a liquid character, as broth from the lean meat of a chicken, beef-tea, weak-hyson tea and cracker, etc., etc.

In recovering, care must be taken not to over-eat, or drink, over-exercise, or allow much exposure to damp, or excessive heat, and to use a tonic, for a reasonable length of time, to prevent relapse, which is often worse than the first attack.

Intermittent Fever, or Ague.—Ague is a species of Fever that comes on with a chill at certain intervals, and runs its course, then intermits (stops) and hence is called Intermittent Fever, as it entirely stops, leaving the patient quite well for one, two, or three days; and these generally take the name of *every-day Ague*—*second-day*, or *third-day Ague*.

Cause.—Upon the Cause of Ague, there seems to have lately arisen a new theory; and I cannot, perhaps, do better in explaining it, than to introduce an article from *Hall's Journal of Health*, for November, 1871. After remarking that Chills and Fever (Ague), and Bilious Fever had prevailed, that year, to an unusual extent, in the vicinity of New York, where the *Journal* is published, as well as in many other parts of the country, he says:

"It very generally prevails in the Fall of the year over large sections of the country. Scattering cases are liable to occur anywhere. These arise from individual indiscretions; but where large numbers of persons in communities are attacked, there, some general Cause must prevail. This Cause has been attributed for ages to 'miasm,' an emanation from the earth so subtle in its character, that for more than a century the greatest skill of the ablest chemists was not able to detect its nature, or define its quality. A bottle of air taken from the most deadly localities was submitted to the most careful and searching analysis without the detection of anything solid, gaseous, or liquid; nothing could be found in the bottle but air, thin air. But the microscope has come to the aid of the alembic (a chemical vessel) and has discovered in this, the miasmatic air, *multitudes of living things*. When bottles of this air were taken from the banks of a Southern bayou, and placed in the chamber of a man in Chicago, by Dr. Salisbury, he was taken with Chills and Fever in a few days, and these living things were found on his tongue and within his mouth; while not a single one was to be found all over the city, except in that one man's mouth, in his chamber, and in the bottles. Whether this *life* is animal, or vegetable, is a matter of dispute, yet it seems capable of producing Chills and Fever; but whether animal, or vegetable, the laws which regulate the action of miasm on the human system remain the same and the mode of production, or the Causes of the generation of this miasm, remain unchanged; and these laws have been determined and described with wonderful accuracy. This miasm results from warmth, moisture, and vegetation combined; if one is absent, miasm is not formed; vegetable matter will not decay unless there is moisture, it will dry up; it will remain under water a thousand years without decay, as witness the wooden piers of ancient bridges, as sound to-day as when they were driven by Adam's grandson, or somebody else who lived a long time ago. The heat must act on the moisture before miasm becomes a product. This miasm, to be injurious, must be taken into the system by breathing into the lungs, or by swallowing into the stomach. But cold, as the 'first frost' which are everywhere known to make it innocuous (not to communicate disease) condenses this miasm, makes it so heavy that it falls to the surface of the earth, and can be neither breathed nor swallowed; on the other hand, heat so rarefies the air in which this miasm is contained, that it carries it up toward the clouds, where it is no more breathed than if it laid immediately on the surface of the earth. Hence heat and cold are antagonistic to the disease-producing effects

of miasm on the human body. To freeze it out is expensive, but to antagonize it by heat is possible, is everywhere practicable.

"From an hour *after* sundown to an hour *before* sunrise, the cold Causes it to settle on the surface of the earth. An hour *after* sunrise and until an hour *before* sunset, as a general rule, it is too high above our heads to injure us, in consequence of the heat of the weather.

"As the heat must be over 80° for several days to generate miasm, it follows that the time, during which we are required to battle with it, is at *sunrise* and *sunset* during the Spring and Fall months. But to make it safe from the first blade of grass in Spring until the killing frosts of Autumn, dress by a cheerful blazing fire, and take breakfast before going outside of the door; come home *before* sundown, take your supper *before* its setting, by the same cheerful blazing hearth, then go and do what you please. You may sleep under a tree, or on a swinging limb, and defy Fever and Ague for a century, if you only keep warm, abundantly warm."

Whether the foregoing statement is true, or false, so far as the cause being *animal*, or *vegetable*, I leave to the future to determine; but of the propriety of avoiding morning, or evening air, he is certainly sound; but there will be many damp and chilly days in the course of almost every season, in which, allowing his reasoning to be correct, when the miasm will be within breathing distance of the ground; and it cannot be expected that the laboring class of persons can confine themselves within doors by the side of warm fires, hence, there will always be more, or less persons having the Ague, who live in low sections of the country where it most generally prevails.

But it is a well established fact that in the Spring and Fall seasons of the year, the idea of building morning and evening fires in the family rooms, all chilly and damp days, are of decided advantage as a preventive against disease, and as promotive of general health.

We, the family, never take down our sitting-room stove, only for purposes of cleaning, and immediately put it up again; and would build a fire on the "4th of July" as quickly as in January, if the cold, or dampness called for it.

Symptoms.—The Symptoms of Ague are too well understood to require particular description, further than it will aid in understanding the Treatment. It always begins with a Chill, (hence one of its names, Chill and Fever) followed by Fever, which is followed by sweating.

Treatment.—There are, probably, hundreds of medicines, on sale, for the cure of Ague; but I prefer to use medicines that I know the composition of; hence, I prescribe the *Cholagogue*, which see, and take it according to the directions. As it contains rhubarb, no time is lost to prepare the system by cathartics. This will generally cure the Ague in from 1 to 2 days' time; after which it may be taken 2, or 3 times daily, at meal time, as a tonic, for a week, or two, and but very few cases of Ague will give any further trouble.

But in Ague, as in other diseases, bathing, or even a regular sweat, should not be overlooked, and all other means of restoring all of the secretions to as healthy a condition as possible. And if there are any persons who will not take the *Cholagogue*, allowing Dr. Hall to be correct, as to the universal nature of the miasm which produces, or causes Ague, and as sulphur is known to kill these little animals, or vegetable matter called *mildew*, or *ground-rot*, when upon grape vines,

why may it not be used here as a physic, as well as a gargle, in CATARRH, which see, and thus kill the *cause* at the same time it *prepares* the system for a *tonic*, which shall cure the *effects* that have already arisen from the miasm? I have no doubt but what sulphur and cream of tartar would be found as good a cathartic in these cases; but any one can take such cathartic as they have been in the habit of using, if they prefer it to the Chalagouge, or to the sulphur mixture; but that is cheap and also purifies the blood. When the cathartic has operated pretty thoroughly, and the Ague has paid you another visit, so you can tell when he will come again, have about 15 grs. of quinine, in 5 gr. doses, to be taken in cold strong coffee, if you wish to avoid the bitter taste, taking the first dose 5 hours before the Chill will begin, the second 3 hours before, and the third 1 hour before the Chill should commence, which will almost certainly "break the Ague," and if it does not, repeat the same course the next time with 10 grs. in 3 doses as before, and not *one* case in a *hundred* will resist it. Then to keep it from returning, every seventh day, take 10 grs. of quinine in 3 doses, as above, and keep the bowels regular by cathartics, and use a tonic bitter of Peruvian bark, colombo root, dogwood bark, poplar bark, common wild cherry-tree, or any other good tonic barks, or roots which are known to be good to tone up the system, and which can be obtained in the neighborhood, tinctured very strongly in spirits, or wine or drank as a tea, by those who will not take wine, or any other spiritous liquors.

No fears need be entertained against the use of quinine, I had as soon use it, as to use flour, each of course, in their proper proportions, and for their proper uses. What has been attributed to quinine as an injurious article should have been attributed to what has been combined with it, or to a neglect to properly prepare the system to receive it, or a neglect to tone up the system after its use. I have taken it personally, and prescribed it sufficiently, watching its effects, to satisfy myself of these facts, without regard to the opinions of others; but, of course, I will allow every man, or woman to use their own judgment about taking quinine, they have the same right to their own opinion as I have to mine; but, I will add that most of our physicians make the same ground that I do as to the use of this article of medicine.

Those persons who are opposed to taking medicines, must meet the Chill with *perspiration*, get up before the time for its appearance, then drink hot teas through the Chill; and during the Fever they must sponge with *cool water*, and take cooling drinks; and meet the sweating stage with *dry frictions*, etc., and tone up the system with exercise, and nourishing diet, and get away from an Ague district as soon as possible, for it is no place for only those who are *not afraid* to take reasonable remedies in reasonable doses.

Congestive Fever, or Congestive Chills.—This is the most severe and dangerous of all the malarious Fevers. It is not common however, in the Northern States; but in the low and marshy regions of the West and South, is quite frequent and often fatal, in a very short time, unless properly understood by the people themselves, so it can be promptly treated in a rational manner, as the patient will quite often have passed into a condition beyond any possibility of recovery before a physician can be got to the bedside.

Cause.—The cause, as above indicated, is malarial; and although these Congestive Chills are generally of the *intermittent* class; yet, they may occur in the *remittent*, but not very often.

Symptoms.—The first "fit," as Ague, or Chill Fever is often called, may not vary much from the common Ague; yet, the Symptoms are generally more intense, or severe—the surface more cold, and the skin more dark, or lead colored, the lips and nails almost blue, the pulse more feeble, scarcely to be felt at the wrist, the breathing more difficult and labored, and greater inactivity of all of the secretions and excretions, the head more giddy and heavy, etc., etc., so much so that the patient will care but little about himself, or herself, or of the surroundings, often saying that nothing is the matter—live, or die is all the same, apparently, at least. And if nothing is done to counteract, or relieve the sufferer, stupor and death may come on in the *first*, and seldom further from the attack than the *second*, or *third* Chill.

Treatment.—The object in these Congestive Chills, is to get up a *re-action*, and all efforts must be directed to this end, and that too with all possible speed—no time may be lost, if you do, the *patient* is pretty sure to be among the lost, for this world.

First, then, it is not amiss in any Chill to put the patients feet into hot water—mind I do not mean *warm*—as hot as it can be borne; but in these Congestive Chills, it is almost absolutely necessary to place the whole body into *hot water*, keeping it as hot as it can be endured without scalding, for 20 to 30 minutes; but if there is no bathing convenience—see BATHING—in the house, have sheets wrung out of hot water and wrapped around the whole body, then hot irons, bricks, or stones, or boiled ears of corn, or small bags of corn, or oats, placed all around the patient, to get up and keep up as much heat as possible until the Chill is overcome and re-action established; at the same time, if HUNN'S LIFE DROPS are in the house, as they ought to be, give a full dose, and repeat in half an hour, or an hour, or both if necessary; and if they are not at hand, and there is any other liniment, or spirits in the house, give them freely, or as a substitute, a strong tea of Cayenne, ginger, or even black pepper tea, as freely as can be borne, or got down, in the great indifference and stupor of the patient; and if there is quinine, in the house, or near, give 3, or 4 doses of 8, or 10 grs. every half hour, which will greatly aid the restoration of the dormant, or sluggish system, without the least chance of injury to the patient. Notwithstanding the great prejudice of many of the honest people against the use of quinine, my personal experience, as well as practice with others, I have no more fears in taking it than I would in eating flour, as above remarked, it is the diseased condition of the system, and not the quinine that does the harm. Rubbing one hand and arm, and one foot and leg at a time with Cayenne, or mustard, if help is at hand would be great assistants also in *re-establishing* the circulation.

Second.—After the patient has revived, and the difficulty passes off, give at least 5 gr. doses of quinine every 3, or 4 hours, to prevent the return of the Chills, which are fully as likely to return as in common Ague; and also continue a *tonic* and cleansing course of Treatment for several days to aid in re-establishing general health, and thereby keep off the disease; but, in case of the continuation, or return of the Chills, the Treatment will be the same, following closely with mild cathartics, tonics, etc.

But it will not be amiss to state here that these Congestive Chills

may and sometimes do arise in connection with the Remittent Fever; yet, if they do, the same prompt and efficient means must be resorted to, and will prove equally satisfactory.

Yellow Fever.—This Fever is a disease of hot climates; and as far as the U. S. are concerned, is almost absolutely confined to the Southern States, seldom approaching the North; and it never occurs unless there has been several successive very hot days, and generally not until past mid-summer; and usually subsides also, immediately after the approach of frosts.

Cause.—An intense degree of heat causing an unusual amount of malarial matter from the decaying vegetable and animal matter, as found in the swamps of the Southern States; but, if the season begins only, to be dry, or remains wet, with no excessive heat, it does not prevail; hence it is only occasionally that it occurs, for want of the exciting Cause. Unless the season is peculiarly adapted to it, it seldom effects those persons who have long resided in the South—they becoming *accimated*, as it is called—strangers, and more recent comers, only, being attacked; but, occasionally, the various conditions, above mentioned, all having been very excessive, the disease rages in a fearful manner, carrying thousands of its victims to the grave, in some cases with no one to prescribe for them, or assist, even, in supplying the common necessities of the suffering patient.

Well do I remember how the stories of these sufferers from Yellow Fever at Norfolk and in other Southern cities in the Fall of 1855 called forth the sympathy and commiseration in the North; and many *physicians* and *nurses* went forth in answer to the call, to aid those desolate sufferers, many of them never to return—their charity, as might have been expected, cost them their lives, and the same unaided sufferings, which they went to relieve.

Symptoms.—Yellow Fever is of an epidemic character, i. e., generally affects a *great number* in the community where it prevails at all; from the fact that the cause is so extensive, but few escape its ravages. It may be divided into three stages, which, in severe epidemics are usually well marked, although sometimes, or when the disease is not so general, the stages are less distinct.

First, there is usually the common Symptoms of Fever for several days; but sometimes only for a few hours; then a chill, in some cases only slight, however, and seldom very cold, nor of very long continuance. Following the chilly sensation, a moderate Fever manifests itself, with hot, dry and harsh skin, scanty urine, and severe constipation of the bowels, which shows that the general secretions are all very greatly deranged. Severe pain in the limbs, head, and back, with very great restlessness. The stomach is also greatly oppressed and generally irritable, and most commonly retching and bilious vomiting will continue through this stage, which may last from 1 to 3 days. The eyes are also irritable, cannot bear much light. The tongue, for the first day, or two, usually moist and light colored, but becomes red and dry as the disease progresses, with a dark streak in the middle, towards the close. The pulse seldom rises above 100 per minute, and has a peculiar *bubble-like* feeling under the finger, vanishing almost entirely under pressure, yet in some cases it may be firmer and more wiry.

Second, the Fever abates, or goes down, and all the Symptoms of Fever improve, the skin softening and perhaps perspiration breaking

out; the vomiting ceasing, or materially lessening; and the patient becomes quite comfortable, although very weak; but the yellowishness of the eyes and skin, peculiar to this disease (in fact the Symptom from which it takes its name) now manifests itself, admonishing you of the approach of the *third* stage, or stage of collapse, from which, but few recover—a few hours only, carrying off the patient.

Third.—In this stage of collapse, the prostration is very great, the pulse feeble, the skin a deeper yellow, the vomited matter changing from the yellowish shade to a dark, or almost black, called the "*black vomit*." Nothing can be kept upon the stomach, yet the distress and pain of vomiting will subside; but, in its place, the labor of the heart is more considerable and distressing, the breathing also laborious, with sighing, or catching for breath, etc., strength fails, delirium and insensibility, and finally death, comes to the sufferers relief.

The black matter vomited in the last stage of this disease is believed, and no doubt very correctly, to be decomposed blood, which from previous explanations in the description of *general* Fever, it will be understood that in this form of Fever, the *cause*—miasma—has so extensively diffused, or spread itself in the air, the blood has become so thoroughly poisoned, it soon breaks down, and thus renders the case almost, if not absolutely hopeless.

And the Symptoms are often so mild that but little attention is given to them; and, although more, or less restlessness may be present, still they neglect themselves until the disease is so firmly established that *little* hopes may be placed upon any treatment, when an early attention, with proper treatment, would have made it only a mild case.

Treatment.—Although I have no personal experience in the Treatment of Yellow Fever; yet, Common Sense would teach any one who is capable of forming a correct opinion from the *nature* and *extent* of the *cause*, that the same Treatment that is good for a common Fever would be the *sensible* Treatment in this; and also teach him that, because this Fever prostrates and carries off its victims in 4, or 5 to 7, or 10 days while other Fevers may run on 4 to 6 weeks, the Treatment here, although it may be mild, must be prompt and efficient, else it will be of no real benefit.

First, then, I deem it of the utmost importance for the person to take a warm bath, with thorough cleansing and rubbing of the whole surface, to be followed by a gentle cathartic, and with mild diuretics, that the general secretions may be placed in the most favorable possible conditions.

Second, place the patient in bed and keep comfortably covered; and the surface may be sponged thoroughly and often, as the Fever arises; and if there is considerable nausea and vomiting, let *one* thorough emetic be given, as the shock will do much towards breaking up the unhealthy condition of the patient; and the removal of the broken down and poisonous blood from the stomach, preventing its re-absorption into the system, causing a further general benefit by its tendency to quicken *all* the secretions. Prof. Scudder, thinks that a tea of peach-tree bark is very effectual in allaying the tendency to nausea and vomiting. Mild diaphoretics must be given, also, to help establish and keep up perspiration; and as soon as there is any *remission*, or lessening of the Fever, quinine must be given in large dose—not less than 10 grs. for 2, or 3 times, in connection with half tea-

spoonful doses of the tinct. of gelseminum, to be given every 2, or 3 hours. Although this dose of the gelsiminum, is large, yet, Prof. King tells us that he has given tea-spoonful doses every half-hour for 4 hours, even to a young lady, followed by smaller doses to maintain its effect.

Lastly, as any Symptoms may arise, or increase in severity, they must be met with promptness, in a natural way—to allay nausea and vomiting, mustard over the stomach, and to the feet, will generally be very beneficial; and the internal use of creosote is highly recommended by Dr. Nott, of Mobile, for the same purpose—20 drops of creosote dissolved in a little alcohol, then mixed with the spirit of mindererus, 6 ozs.

Dose, $\frac{1}{2}$ oz., or 4 tea-spoonfuls every 2 hours. I should say *one tea-spoonful every half-hour, would be less likely to oppress the stomach.* Mustard may be applied along the back, also to relieve pain there. By *mustard*, I mean, of course, a *mustard plaster*, in the usual way, until its effects are shown by redness, or smarting, or both. The strength must be maintained by "egg and ogg," "brandy toddy," or "mint julep," which is a favorite beverage of the South. Beef-tea, or nourishing soups from oysters, chickens, etc., may also be used, even as injections, if the stomach will not retain them. The stomach must not, however, be overloaded in any case. Always use the utmost care, not to give large quantities at a time.

The Spanish physicians, Dr. Gunn informs us, in his Family Physician, mix their mustard plasters with *vinegar* to apply over the stomach, and also, that they give *injections* of salt and water, in order to overcome the tendency to the black vomit; and that they also use cream of tartar as their chief cathartic from its mildness of action, drinks of *tamarind water*, *lemonade*, or other mild acid drinks, and in the cold stage the *warm bath* with *mustard* in it, and that they also violently oppose the use of the lancet (bleeding) and mercury; in these I fully agree with them; for, in any Fever, *heat* should be applied to the *surface* to overcome a *cold* surface; and *cool*, or *cold* spongings, whichever is most agreeable to the feelings of the patient, to overcome a *hot* surface where the Fever rages with excessive heat; the head should also be kept cool by cold bathings, or warm bathings, then fanning to give a cool sensation, whichever is most agreeable. When the head is more than usually hot, or painful, the feet are more likely to be cold, or tending to coldness; this must be overcome with *mustard*, or with hot *stones*, or other heat, as most convenient.

In order to further corroborate, or prove the correctness of the Treatment I have given, above, of Yellow Fever, I will also quote from Dr. Beach's Family Physician. And "by the way," it will be but proper to say here, that this Dr. Wooster Beach, of New York, was truly the *originator* of the Common Sense, or American Eclectic Practice of Medicine, as now followed by this class of physicians, with their various improvements which *fifty* years of experience has added to it, and which is still proving so eminently successful wherever introduced and closely followed. For a more particular account of Dr. Beach's connection with the early history of the New School, see the latter part of the Introduction of this Book. On the subject of Yellow Fever, Dr. Beach says:

"The only safe Treatment is stimulation. In all, where debility is great, obstruction exists in some part of the system, but especially

in the skin; hence, the insensible perspiration, by which several ounces are daily discharged, from a healthy subject, is checked, and the matter thus accumulated is retained in the system, or carried off by other channels, producing diseased action. The skin is especially inactive in Yellow Fever, and so is the liver. Hence, the bile, a fluid necessary to digestion, instead of being discharged into the duodenum" (properly, the second portion of the stomach, or a space of about 12 inches in length, next below the stomach, into which the bile is, in health, poured from the liver and then mixes with the dissolved portions of the food as it passes on from the stomach) "is distributed through the system, and reaches the skin to be thrown off by perspiration; but as the skin also is inactive, and perspiration consequently checked, this bile is retained at the surface. Hence the dryness and yellowness of the skin. The stomach and bowels are also paralyzed" (inactive) "therefore the loss of appetite and inability to digest the food. Under this theory of causes and symptoms, the indication" (course pointed out) "of course, to use technical language, is to excite action where it is most deficient, in the stomach, bowels, liver, and skin; and this can be done only by stimulants. The first step is to clear the stomach by an emetic; the second by a brisk purgative; a diaphoretic should be swallowed, and the patient placed in a water, or vapor bath, at a moderate heat at first, which is to be increased, according to the patient's strength, not exceeding 120° of Fah. till perspiration appears; and while in the bath the patient should occasionally drink of 'catnip,' or other warm herb tea' (diaphoretic, of course). "On leaving the bath the patient should be placed in a warm bed, and be well covered with blankets, to promote perspiration. After perspiration has ceased, the bed clothing should be gradually removed, till only enough remains for comfort, and the prevention of cold." He continues:

"We venture to say that this practice will cure most cases of Yellow Fever, and are told that it is almost uniformly successful among the French and Spanish physicians at Havanna, while the Americans and English are slaughtering with calomel and the lancet." (This it will be remembered was written many years ago, before even the "regulators" had at all profited from the "Medical War," arising from Beach's and other Eclectic teaching). "Physicians who have attended Yellow Fever will admit perspiration will save the patient: a proof of our theory about obstruction of the skin. They also know that when perspiration first appears, its odor is offensive, and that it dyes, or colors linen of a yellow, or brown color; additional proofs of our theory about obstruction in the liver, and of the diversion" (change) "of the bile from the stomach to the surface. The hinge of our practice is" (therefore) "a determination of the vital energies from the center to the surface, and the excitement, or stimulation of the skin, as first remarked; these are to be obtained only, by clearing the stomach and bowels of their unnatural loads, and exciting perspiration, and sponging the surface often, with lye-water." This plan will hold as good in any other Fever, or inflammation, as it does in Yellow Fever.

Southern Report on Yellow Fever.—In 1855, the year that the Yellow Fever made such ravages in the South, and in Norfolk, N. C., in particular, Dr. Stone, an eminent surgeon of New Orleans, was introduced at a meeting of the New York Academy of Medicine; and gave the following valuable information respecting this terrible disease, which

was reported by the *Sci. Am.*, and appears to be of such apparent importance upon the subject that I deem it proper to give it in connection with what has gone before, as it embraces some items which are not embraced in the previous remarks. And as Dr. Stone has had 20 years of experience in the South and among the disease itself, it gives me especial pleasure to lay his opinions before my readers, for they are deeply imbued with the principles of *sound common sense*.

Of course, as a Northern man, I have no experience in it; and very gladly avail myself of the experience of a Southern gentleman, in a matter of such vital importance, to those who may come into possession of this Work, which I hope shall continue to do good many—many years, after I have passed away. The report of Dr. Stone's address was given in the following words:

"In his opinion Yellow Fever is a specific" (positively the same) "disease—the same everywhere, unmodified by topographical, or geographical causes, or changes of climate, but, under all circumstances the same, identical and unchanged. When the Fever is epidemic" (prevailing among the people) "anything which disturbs the system develops it" (brings it on); "at such seasons *no other* disease prevails; and many have it in a light manner—known to be such by the symptoms peculiar to its convalescence" (the recovery of health and strength after disease) "yet such never have it again. Even accidents and injuries occurring at such times are sure to be followed by Yellow Fever, in from 24 to 36 hours.

"Many attempts have been made by statisticians to discover its cause, but, like cholera, it escapes observation. Warm climate is an essential. A continued heat at a certain high degree was once supposed to be essential, but this is now disbelieved, for, in 1847 it commenced early; in 1853 earlier—say in the latter part of May and June, when there was no steady heat. Moisture seemed not essential, for it raged equally in the high lands as the low—where the high trade-winds blow, or where the air was damp. New Orleans has daily showers at certain seasons, and yet, without any Yellow Fever. This year it was very dry, and the sugar cane dried for want of moisture, and all were suffocated by dust, when the disease first appeared. It is not augmented" (increased) "by filth, or unwholesome air; it is a deterioration" (to have grown worse in quality) "of the vital powers, from some unknown cause. Frost does not check it. As a general rule, when the epidemic came early, it left early, and when late, it left late. The disease has never renewed after it has ceased, by the return of the people from their Summer retreats, as it would if contagious" (catching, by contact).

"Some believe in its contagion, but it is incapable of generating its own poison under any circumstances, were it so, being such a specific, marked, and formidable disease, it could not but be evident. It is all around us and we cannot so well observe this, as in smaller districts where the fact is plainly to be proved. A vessel from Bremen, bound to New Orleans with emigrants which came from the south side of Cuba, and when *one hundred miles from land* took the Fever and many died. On landing, some 30 were sent to the hospital, and many died there also; but, no one else took the Fever. When the Charity Hospital was moved, the house was crowded, and beds were laid on the floors and in the entries, etc. Many died of Yellow Fever, and the beds, covered with excrements were laid in the passage, but there

was no epidemic in that neighborhood, and those lying around—even the unacclimated—did not take the disease.

"Its epidemic character is almost undisputed. It would sometimes, however, appear to be contagious where it was not—as, for instance, the moral effect of one case occurring in a family is sufficient to cause all the other members to take it—but, only, in the Yellow Fever region; hence, the foregoing conclusion. Any excitement, at such times was sufficient to create, or develop it. It was noticeable among the unacclimated—the Northerners and others who united together for self protection, the nurses and assistants were the last to take it, while the timid, who shunned infected localities, who sneaked off to bed, who feared the night air, who deprived themselves of exercise by their seclusion, were by these mental causes the first to receive it. In Norfolk, recently, it was believed, at first, not to be personally contagious, but all felt that they were shut up, obliged to stay and perish, and the moral effect was disadvantageous. They did however, in some instances, attend to their own relations, but others were unnursed and neglected.

"This disease has literally no anatomical character—it is a blood poison. In Yellow Fever, proper, there is no traces left to account for sickness, or death. Occasionally there are engorgements" (congestion, filled with blood to excess) "from the *sequela* (result, from *sequi*, to follow) "—but none to account for the black vomit, etc." (Dead, or black blood has, in some instances, been found in the stomach to account for this black vomit, showing the disease, as Dr. Stone says, to be of the blood). "There was, in fact, no irritability, or tenderness of the stomach, but simply heightened nervous sensibility.

"*Yellow Fever is a self limited disease; it is not to be Treated—it is to be managed. All that is to be done is to keep the patient alive for a certain time, and he will get well.*

"The disease is ushered in with a chill, or slight rigor, often scarcely noticeably, followed by heat in the forehead, pain in the head, limbs, and back. If *carefully managed*, these symptoms will quietly and gradually terminate in 2, or 3 days; but, if they get hot and dry, in from 5 to 7 days, collapse, black vomit and death result.

"Among those who may be said to understand the disease, there are two methods of treatment; the *expectorant*—cups to the temples to relieve cephalalgia" (headache), "slight laxatives to open the bowels, and hot baths under the bed. The *others* give quinine, a remedy which Dr. Stone regards as the *best*. His method is to give a full dose of 15 to 20 grs., according to strength and other circumstances at the beginning of the disease, and perhaps 10 grs. 12 hours after; but none unless on the first day; as the second day it is entirely useless, and after that actually injurious, although they bear it better than any other remedy. It causes vomiting when given late in the disease, and is not necessary for its effects last several hours after its administration. Dr. Stone thinks that the use of calomel should by all means be avoided. He knew this, for he had followed the patients of the *calomelites* to the dead house in plenty.

"There are some peculiarities in the disease that might not, at first, strike one—the disturbed nervous system; and especially delirium, is one of the worst symptoms. This may appear at first, but not usually. Its first evidence is restlessness and want of sleep; objects are seen as in *mania-a-potu*" (delirium tremens). "Narcotics pro-

duce stupor and death, for the patients with this disease, are peculiarly susceptible to the influence of morphine; stimulants are much better. You must watch to give stimulants as early as possible; they then sweat off and are relieved in 24 to 36 hours; but even then they must not be disturbed; if raised up they faint away, perfect and absolute rest of body and mind, are indispensable. If patients become excited, the heat returns and they die. Watch for sleeplessness, and give minute anodynes, and stimulants. Give those agreeable to the palate. As they approach the black vomit period with previous restlessness and acid secretions, give some alkali, with minute doses—say a 20th, or a 30th of a grain—of morphine, with champagne, ale, beef-essence, etc. Impart to the patient a feeling of safety and security. The patient is to be managed --not treated.

"Foot-baths under the clothes will often produce favorable sweats. When in dry heat, forced perspiration is bad; sponging with warm water is then better. The *douch*" (pour or flow) "is but of temporary benefit, and the subsequent reaction leaves the patient worse. Sponging with lemon juice, sweet-oil, and salt are used; but pure water is better" (I have found, in other Fevers, sponging with bay-rum the best, why not in Yellow Fever?—stimulation is needed, and this is very stimulating and very grateful to the patient). "Careful covering of the entire body and limbs is absolutely necessary; but not to swelter, under too much covering. If the hand only, were but exposed sometimes, the heat would return and a relapse follow. Some mild diaphoretics" (a medicine which promotes insensible perspiration) "may be given; such drinks as the patients desire. One year they all want brandy and water, other years all want malt liquors. Give that which is desired, and carefully avoid even the nervous shock caused by a bitter, or disagreeable medicine. Sponging the body under the clothes, ice water to the head, generally, was followed by re-action and more pain" (I think it was from the ice to the head, not from sponging, unless ice water was used to sponge with—that would cause too much of a shock). "Dr. Cartwright had pursued the opposite plan of enveloping the head in warm fomentations.

"The recent Norfolk epidemic was the identical Yellow Fever seen the same in every locality, but in a severer form than ordinary. It first commenced at Rio, in 1851, thence spread through Brazil, Para, the Northern part of South America, going into the country and small villages; into the plantations heretofore unknown to be ever effected, attacking negroes who seldom have it, going into the pine woods of Alabama, and the heights between this State and Georgia, the next year throughout Georgia and South Carolina, this year in Memphis, where the epidemic was never before, and Norfolk. It is creeping over the country, and there is some reason to fear, why cannot be said, that next year it may reach New York.

"Dr. Stone is a man of close observation and great experience in the treatment of Yellow Fever in New Orleans for over 20 years. His opinions are entitled to careful consideration.

"Alas! how terrible is the very thought that a great and popular city like New York is, perhaps, standing in the pathway of this fearful king of terrors.

"Inoculation for the Yellow Fever is reported to have been tried in more than 1,000 cases, at New Orleans, during the past Summer (1855), with perfect success."

I have found the sponging of the face and hands, and the whole body and limbs, with bay-rum, to be attended with such an agreeable sensation of relief, in common Fevers, pneumonias, etc., running into a Typhoid, or low condition of the system, that I must again refer to it in this connection; for I believe it will be found of great advantage in Yellow Fever; and if the bay-rum could not be got I should use even whiskey, if nothing better was at hand, or camphor spirits made with whiskey, and warm, if it felt more grateful than to be used cold.

Scarlet Fever.—This disease is almost absolutely confined to children, at least, it seldom effects those beyond 20 years of age; and contrary to the effect of measles, the older the person, generally, the less severe the disease. It is known among physicians as *scarlatina simplex* (simple Scarlet Fever), and *scarlatina maligna* (Malignant Scarlet Fever. Some writers also make a medium division *scarlatina anginosa*, Inflammatory Scarlet Fever); but this "drawing it fine" is much like the style of some would-be-ladies, who make "three bites of a cherry," or, "cut a bean into halves and eat it with a fork." At any rate, unless there is some throat Symptoms, it is hardly worth calling Scarlet Fever, as only the mildest Treatment, upon natural principles will be called for, with a little care about exposures, to prevent the severe forms of the disease.

Cause.—The Cause of this disease is admitted to be contagious, or catching it from others; yet, there would necessarily appear to be some other starting, or original Cause; for it sometimes starts in a neighborhood without, at least, a known case from which it might have originated; yet, it is possible that it may, for a long time, lie concealed in the clothing of those who have had it, or nursed, or attended those who had; and this thought, of some original starting Cause is strengthened from the known fact, also that there are sometimes such a peculiarity in the conditions of the atmosphere that Causes the disease to effect almost all the children of a neighborhood, although in some cases, there is no knowledge of an exposure. But, it being a well established fact that children sometimes take it by its being carried in the clothes of a mother who has visited a child suffering with it in the neighborhood, great care should be taken in all cases to keep the rooms well ventilated, where it exists, so there shall be no danger of the contagious particles from the sick making any lodgment in the clothing of those whose duties call them, as assistants to minister to the comforts of Scarlet Fever patients.

Symptoms.—After exposure, the disease may come on in from 2 to 10 days; usually however, in from 6 to 8 days. The usual Symptoms of Fever generally manifest themselves, as languor and often drowsiness, pains in the back, limbs, and head, chilliness, heat, and thirst, and perhaps nausea, and finally more considerable chills. The severity of the chills and other Symptoms fairly indicating the severity of the approaching Fever. This Fever receives its name—Scarlet—from the *Scarlet* appearance, or redness which accompanies the disease, and which usually makes its appearance upon the surface the second day after the Fever has manifested itself. This fact will make it easily distinguishable from measles, the blush and spots of which seldom come out before the fourth day. As the *Scarlet blush* appears, the pulse usually increases, and the patient also becomes more restless and uneasy, and, in severe cases, delirium sometimes sets in soon after. In these severe cases also, the eyes will be red, face consider-

ably swollen, a white mucus covering the tongue which will also show elevated points of a deep red; the throat, also red and the tonsils, in the sides of the throat, more, or less swollen also. The highest degree of redness, soreness, and swelling will be reached from the *third* to the *fourth* day, after which, if the Treatment is favorable, or the disease takes, of itself, a favorable turn, a gentle moisture, or slight perspiration will take place, and the disease begin to decline, known by an itching of the surface, and the scaling off of the scarf, or outer portion of the skin. While, on the other hand, if the disease is not properly treated the tongue and throat becomes fiery red, and perhaps the whole mouth raw and tender, and the throat becomes ulcerated down as far as can be seen, making it very difficult for the little patient to swallow; and the large amount of mucus present, causes a rattling in the throat, also increasing the difficulty of breathing. And this inflammation after it extends into the Eustachian tubes which form the connection between the mouth and the *inner ear*, thereby causing considerable pain and swelling in these parts; and the glands under the ear often inflame also, ulcerate, and break; and there may be abscesses, or ulcers break in the ear, or ears, causing more, or less deafness, and leave their lasting effects, even if the patient survives the disease.

With Scarlet Fever there is no cough; while in measles there will be cough; and in this disease, the redness of the surface will be more uniform. There will be considerable restlessness as well as sleeplessness of the child from the smarting, or stinging of the surface, as well as from the soreness of the throat, especially so in cases that take on any considerable severity. The question naturally arises, here, why do some cases become severe, while others are very mild? The answer is as plain and *natural* as the question! Because the general system, blood, etc., in some cases is in a good and healthy condition, while, in others, it is more, or less deranged and out of order. This leads me to the

Treatment.—It is a well established fact, that belladonna (*atropa belladonna*, known also as deadly night-shade, dwale, black cherry, etc.) will, to a considerable extent at least, modify, or abate the severity of the disease, especially when its use is commenced soon after the child has been exposed to the disease. So well known is this fact, that, I believe, all classes of physicians recommend its use, although its use is claimed to have originated with the great, little Hahnemann; *great* in originating a peculiar practice of medicine, and *little* in his doses. And one thing, at least, may be relied upon in relation to his followers, and that is, in the *amount* of medicine they give, *if they are true to their originator*, their doses will never do any harm.

First, then, after the exposure, get tinct. of belladonna, 1 dr.; and put it into a tea-cupful of water, and give it in tea-spoonful doses, once in 3, or 4 hours through the day time.

Second, Bathe, or thoroughly wash the child's whole surface, every evening, at bed time, with lye-water, or a plentiful use of soap, rubbing the whole surface, after the washing, with a coarse dry towel, or the hand, which will greatly add to the powers of the system to resist disease, or in other words, will greatly aid to put the child into a healthy condition whereby the skin, and the system generally, will be in the best possible condition to bear up under disease, especially, so if, at the same time the child is put upon a light diet, using milk,

as freely as it may desire, or be satisfied with; also giving a gentle cathartic, at once, and repeating it after 2, or 3 days, avoiding exposures to cold, or dampness of the weather, whereby it might "take cold"—this, in 9 cases out of 10, will remove all the danger of the disease; in very many cases, at least, so modifying the disease, that there would be no dangerous throat complication, from which the greatest dangers always arise.

Third—On the approach of the disease, known by the chilliness, let the child have your undivided attention. Extra clothing should be at once wrapped around it, and its feet put into hot water, into which a little mustard has been stirred, soaking them well for 15, or 20 minutes, giving some of the sweating, or diaphoretic teas; and as the Fever comes on, add 10, or 15 drops of the tinct. of aconite, to the belladonna mixture, and, if the Fever runs pretty high, give a tea-spoonful of this double mixture every 2 hours until the Fever is considerably reduced, then once in 3 hours, or so, to keep the Fever within the bounds of moderation. This may also be helped by sponging the surface once in 2, or 3 hours, as the degree, or heat of the Fever seems to demand.

Fourth—If the throat becomes sore, so as to be complained of, by the little patient, take the best vinegar, made from cider if you can get it, and warm it a little, unless cold is more agreeable, and take soft flannel cloths and wet and slightly wring out of it and apply to the neck and cover with dry cloths; and as fast as this becomes hot, wet, wring, and apply again, every half-hour, to an hour, or two, as required; and in some cases the belladonna and aconite mixture may be given as often as once in an hour, or hour and a half, to control the Fever. In high Fever, the spongings may be with cool water, to be agreeable to the child, keeping all parts covered, except the part you are sponging. If the outside of the throat should become irritated by the vinegar applications, rub with a little lard, or with a bacon-rind, wiping off carefully, then applying the vinegar cloths again; and if no irritation is produced, and the throat Symptoms become severe, put a little mustard (flour of mustard is meant in all these items), or a very little Cayenne into the vinegar until a redness is produced and can be maintained. And if the evening of the second day, the eruption, or *Scarlet rash*, does not appear upon the surface, or if it "strikes in," after its first appearance, take a blanket of sufficient size to cover the whole patient, the head excepted, and wring it out of hot water in which a little mustard, or Cayenne, has been stirred, and wrap the patient therein; and if this does not soon relieve the dangerous Symptoms, give an emetic to aid this difficulty, which will relax the system, and relieve the case, hardly ever failing.

For the throat, if there is any considerable soreness and inflammation, take hydrochlorate of ammonia (also called muriate of ammonia), $\frac{1}{2}$ oz. water, a tea-cupful, and give 1 tea-spoonful every 2, or 3 hours, according to the severity of the soreness, or ulcerations. This article is highly recommended in all diseases of the mucus membrane; hence, as the whole internal surface is covered with mucus membrane, it is good in these particular inflammations of the throat. Prof. John King, in his American Dispensatory, in speaking of this article, says:

"It has been recommended internally in all tuberculous diseases, in chronic pulmonary affections, rheumatic face-ache, hemicrania" (pain in only one side of the head), "ischuria" (retention, or suppres-

sion of the urine), "chronic enlargement of the prostate" (a gland lying along the passage of the urethra), "chronic rheumatism, chronic bronchitis, neuralgia, nervous headache, chronic dysentery, amenorrhea which results from deficient uterine action, and in *all chronic diseases of mucus, or serous tissues.*" The *serous tissues* cover the outer surface of the internal organs of the chest, bowels, etc., which also secrete a fluid that keeps them moist and soft so that they move upon each other without friction.

The foregoing doses are calculated for a child of from 4 to 5 years old, and may be increased a little, or lessened a little, according to a greater, or less age. And in case that a child is older, so as to understand the principle of gargling, the ammonia water may be used as a gargle, every hour, or so, spitting out the rinsings of the mouth; or a gargle of salt, vinegar, and water may be used, or the inhalation of the vapor, or steam of vinegar and water, half and half, may be used.

And:

Lastly, but not "leastly," in importance, stick to these instructions notwithstanding every neighbor will have a plan to recommend, by which, of course, they mean well and sometimes might do well; but it is not safe to be changing, when at least you have a well tried and satisfactorily proved plan, which any person of ordinary Common Sense, will be able to see embraces all that can be desired. All that is further necessary to do is to watch the symptoms closely, and meet any modification of the disease by the appropriate remedy, as above directed; but, in case any other plan should be adopted, let it be held onto sufficiently long to give it a fair trial; but, again, do not be persuaded to make any change, without due consideration and examination of the philosophical reasons as to why, the change recommended, would be for the better.

The other Eruptive Fevers, as Measles, Small-Pox, etc., will be found under their appropriate heads in the alphabetical arrangement of the Work.

FILMS Upon the Eye.—To Remove.—A young gentleman, who is now a butcher of this city, when a boy had a Film come over one of his Eyes, which the physicians failed to cure; but an old German tanner gave his mother the following prescription which cured the case, and the Eye is still sound and good:

Take 3 cents worth of sulphate of zinc, pulverize fine and mix it up with sufficient lard to form an ointment of the usual consistence; and apply a little of it once, or twice daily, for several weeks, or until cured.

2. M. Duputren, a celebrated French physician, for the same purpose, used the oxide of zinc, white candy, and submuriate of mercury, in equal quantities; all pulverized very finely and thoroughly mixed, and blow a little of the powder into the Eye, being careful not to rub nor work the Eye, soon after. But, I cannot see the object of the mercury when the *first* preparation will accomplish all that is desired without it. The longer standing the Film, or speck the longer will the application be required to be followed, as age gives them thickness, and it is not desired to put on so much as to create any considerable inflammation.

FOMENTATIONS.—It is a well known fact, that heat properly applied, will to a greater, or less, extent, relieve pain. From this knowledge has arisen the very judicious plan of what is now known as Fo-

mentations, etc., etc., of applying various heated substances to any particular part which may be afflicted with any considerable pain, as to the bowels in inflammation, both to allay pain and lessen the irritation; to boils also, or other swellings to hasten suppuration, and to aid in restoring a healthy circulation.

The American Eclectics, are celebrated for following out this idea, using several at a time, or singly, the various *bitter herbs*, as hops, wormwood, tansy, chamomile, thoroughwort, etc., boiled, or heated, to allay irritation and to promote suppuration; and poppy heads, stramonium leaves, or the leaves of the deadly nightshade, etc., or otherwise some of the previously mentioned articles combining with them a small amount of opium, whereby their anodyne effect is aided in allaying the pain, or inflammation in boils, white-swellings, inflammation of the eyes, or any other parts where the severity of the pain demands relief. Great attention should be given in these cases, however, to wring out the water, when wet applications are used, to prevent any unnecessary drippings which would wet the patient, or soil the bed.

2. In pleurisies, inflammation of the lungs, etc., bags of dry bran, heated as hot as they can well be borne, and kept hot by frequent changings, have done very much in breaking up the acute attacks of inflammatory diseases—whether wet, or dry applications are used, the changes must be made sufficiently often to keep up the heat otherwise injury instead of benefit will be the result, more particularly so however, with the wet applications.

3. In swellings of the limbs, joints, etc., steaming of the parts are often resorted to with greater benefit, by boiling the herbs in larger quantities of water to allow hot stones, or hot irons to be put in occasionally, a blanket being covered over the parts and well tucked in to retain the steam. It is valuable also in felons, boils, ulcerations, etc., etc.

F. MISCELLANEOUS. F.

FAINTING AND APPOPLEXY.—To Distinguish, and what to Do.—If a person Faints, he is without sense, has no pulse and does not breathe.

If a person is asleep, although he has no realizing sense, yet his pulse beats regularly, and his breathing is also regular, and you can easily wake him.

But Apoplexy is between the two; the heart beats, and the person breathes as in sleep; but there is no sense as in Fainting, and you can not wake him up to a sense of life.

In Fainting, the face has a deadly pallor; while, in sleep it is natural; but in Apoplexy, it is turgid, or swollen much beyond what is natural, and fairly livid, or of a dark purple.

When a person Faints, all that is needed is to lay him down flat on the floor and he will "come to." He Fainted because the heart missed a beat, failed for an instant, failed for only once to send the proper amount of blood to the brain. If you place the patient in a horizontal position, lay him on his back, it does not require much force of the heart to send the blood on a level to the head; but if you set a man up, the blood has to be shot upwards to the head, and this requires much more force; yet in nine cases out of ten, if a person

Faints and falls to the floor, the first thing done is to run to him and set him up, or place him in a chair.

In Apoplexy, as there is too much blood in the head, every one can see that the best position is to set a man up, and the blood naturally tends downward, as much so as water will come out of a bottle when turned upside down, if the cork is out.

If, then, a man is merely asleep, let him alone; for the face is natural; if a man has Fainted, lay him flat on his back, for his face is deadly pale; if a man has Apoplexy, set him in a chair, because the face is turgid swollen, livid, with its excess of blood. See **Apoplexy** for further Treatment.

FARMING—A Model Farmer.—A committee appointed by the New York Farmers' Club to visit Beacon Farm, at Northport, L. I., managed by William Crozier, reported as follows, through its chairman, F. D. Curtis.

In 1868 there were on the place 6, or 8 cows, a pair of mules, a horse, or two, and 30 head of Merino sheep. They made about 75 loads of manure. The 600 acres of arable land was cut into 20, or more small fields, divided from each other by old hedge rows, full of briars and small cedars. Several hundred acres were in the old common, that yielded scant pasture for two or three months in Summer. Much of this common was overgrown with oak bushes, little cedars, and hickory stunts. Now we find the Farm stocked, 88 horned cattle of superior thorough bred stock, 52 horses, 27 sheep, 75 hogs, 300 hens, and 35 ducks; and he buys no hay, no corn, or oats, no roots. He has fifty acres in one clover field. The sole outlay for cattle food is about \$500 for wheat shorts. Instead of 75 loads of manure, we estimate his compost piles for use this Spring and Summer to contain 6,000 loads.

Manure making with this vigorous Farmer is not a theory—an effort and a wish merely—as it is with thousands. He makes it. There are the immense banks of it standing a fathom deep in the main stock yard, and looming above the furrows of all the plowed fields. His compost pile is not the Winter's accumulation thrown into the yard from stable doors and windows to be hauled in the field in April and May. Manure making composting goes on the year round; no day of Winter so frozen but it sees additions to the piles of fertilizers; no Summer morning without its round of chores that swell the heap. "Everything," he says, "Must have a mother; and *manure* is the mother of all things." He keeps an ox team, and has them driven steadily at work the year round, hauling absorbents and composting stuff. His task is, five loads before dinner and five after dinner of leaves from the woodlands, muck, weeds, and salt mud. His calculation is, that the solid droppings of a cow, or ox amount to something like 10 loads in a year, and that 10 loads of muck and leaves should be composted with it. For manure making, he says 4 sheep equal a cow, a horse equals 2 cows, and 2 hogs equal a cow.

Pasture land he does not believe in. Young animals and milch cows should have a small range, and run it an hour or two for exercise. But a quarter of a mile a day is all the walk a milch cow needs. This forcing a cow to range over a wild reach of hill and swamp and moor and wood for the material to make milk of, is, he insists, the crying sin of American dairymen. He is a thorough believer in cooking for all Farm animals in Winter, and cutting green food for them

all Summer. Beginning, for instance, with May, he goes through the year as follows: May, old hay, the last of the stalks, and roots, and rye. June, clover and oats. July, sowed corn and fresh meadow hay. August, sowed corn, clover, and oats. September, sowed corn, field corn, soft heads of cabbage. October and November, turnip tops, corn, beet tops, carrot tops and roots. November 15 to May 15, boiled food, corn stalks, hay and roots, steamed together and sprinkled with meal and shorts, the rate being about 4 tons roots to 1 of stalks and hay. He used Prindle's boiler, large size, and a double steam box.

The stalks and roots are all cut fine, shoveled into the box, and the steam let on. In about 6 hours it is soft so that a stick can be pushed through it. It is allowed to cool to the temperature of the blood before it is given to the animals. His roots, Swedes, mangolds, and carrots are grown in the following manner:—Draw furrows, say 2 $\frac{1}{2}$ feet apart, and fill them with manure; then cover with a double furrow and roll flat, and open enough to receive the seed; cultivate with horse-hoe. On land not remarkably fertile he gets, 35 tons to the acre; allowing 30 bush. to the ton, that crop is 1,000 bush. He harvests by ploughing them out, first clipping the tops while in the ground with a sharp steel hoe; then he harrows over the field, lifting the teeth as the roots become entangled. Then dump-carts go on and gather and throw them in long piles by the road. These piles are covered with tons, straw, and earth, and loads are taken out daily as they are needed at the barn. With 6,000 loads of manure he has enough to dress 30 acres very heavily, and all his Swedes were large as also his carrots, many of them taken from any part of the pile, measuring three inches across the crown. He cut 60 tons of hay, and we saw at least 20 yet in the barns, (middle of March), for his dependence is upon roots. He had 32 acres in roots in 1870, and estimates his crop at 30,000 bushels.

Besides these crops he has made extensive and permanent improvements. Bushes have been grubbed up, fences rebuilt on all parts of the place, tough old pastures thoroughly plowed, the forests trimmed and raked, young groves of locusts nursed, gates hung, high yard fences built and roads graded. He has the best milk-house we have ever seen not excepting the famous dairies of Delaware county, west of Philadelphia. His hog pens are commenced on an excellent model, but to describe all these and his system in connection with them, would be to write a treatise on butter and pork making.

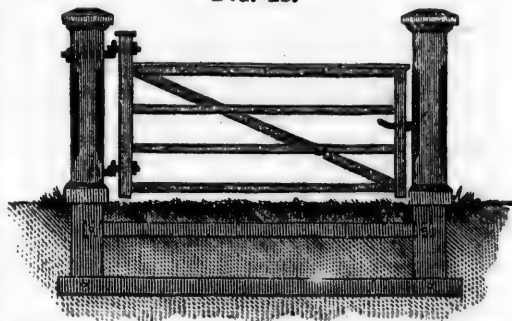
We submit this as a report of progress, and have given the chief features of his faith as an agricultural thinker, and his practice as a successful Farmer. Nor have we said these emphatic things from a wish to praise Mr. Crozier, but simply to let Farmers know how striking the real successes of their profession are.—*Hearth and Home*,

FARM GATE—Method of Setting the Posts to Avoid Sagging.—There is such a general annoyance with the Sagging of Farm Gates that I have thought it advisable to show a plan of Setting the Posts, suggested by the *Hearth and Home*, by which all such difficulties are avoided.

All the work may be painted 2, or 3 coats of coal tar, before Setting, or with the "everlasting paint," as given in connection with the FENCE POSTS,—EVERLASTING, which see, as it is undoubtedly a much better plan than the coal tar. Of course it may be optional, with every one, whether they will square up, cap, and cover their Gate

Posts, or not; but they certainly should be capped; and the upper hinge should go through the Post, as represented in the cut, and be secured with a nut; for a driven hinge will soon draw out by the weight of the Gate. It matters not with the bottom hinge, as the weight of the Gate, helps to keep that one in place.

FIG. 23.



It will be readily seen that the plan is to frame the bottom of the Posts into a sill, with a girt to come about 10, or 12 inches below the surface of the ground. The dirt should be very well packed. The girt not only prevents the Posts, which supports the gate, from Sagging towards the other Post, but also will act as a lever to prevent it from Sagging side ways when the Gate is open.

1. FELON.—Remedies.—The London *Lancet* is considered high medical authority by the "regulars," hence the following Receipt for the cure of Felon, may be considered the latest instructions from that School, upon this subject. It says:

"As soon as the pulsation, or throbbing, which indicates the disease, is felt, put directly over the spot, a fly-blister the size of your thumb-nail, and let it remain for 6 hours, at the expiration of which time, directly under the surface of the blister may be seen the Felon, which can be instantly taken out, with the point of a needle, or a lancet."

I hardly suppose that the London *Lancet* would answer for this purpose. But a gentleman tells me, who has tried the blister plan of treatment, that a white spot, or point is seen, sometimes rather more deeply than the above would imply, which may be pierced with a needle, but a "lancet" would be the better, because the opening would be larger to allow the escape of the matter, after which they will generally get well without further trouble.

But as there are various other plans, I will name a few, as but very few persons can be brought to contemplate the idea of *lancing* them, at least until they have suffered many times more pain from the Felon, than the lance would cause, which is over in a moment.

2. Another.—An old physician informs the *Journal of Medicine* that he has cured scores of Felons by simply wetting a cloth with the tinct. of lobelia and binding it upon the parts, and re-wetting as often as it becomes dry; but this should be commenced as soon as pain and swelling begins, to insure success. I know that this tinct. with one-fourth as much of the tinct. of cayenne, makes a valuable liniment.

3. Another.—It has been abundantly verified that Felons have been cured by steaming them several times daily, over a kettle of water, in which yellow-dock root has been boiled to make a strong

liquor, a gallon, or two, the hand to be held over the kettle and covered with flannel, to keep in the steam, having it as hot as can be well borne. Heat up the same liquor and steam the hand 3, or 4 times daily, or oftener if the pain should return. This saves the injury to, or stiffness of joints.

I am not positive of it, but I believe that a strong decoction made with tanzey, hops, or wormwood would do equally well as the yellow-dock; but if that is handy let that be used in preference. The steaming process will soften the hard and dry skin of the hand which arises from the fever attending the inflammation. And if the steaming is extended to the whole body once, or twice a week, by the usual mode of SWEATING, which see, it would cleanse the pores of the general surface, and enable the skin to throw off effending matter that is being absorbed from the Felon; and the same will hold good of any similar swelling, or sore on any part of the body, or limbs.

4. **Another.**—I see it stated, also, that common rock salt, such as is used for salting down pork, or beef, dried in an oven, then pounded fine, and mix spirits of turpentine with it, in equal parts, wrap around the finger, or part afflicted, and re-wet it with the turpentine as often as it gets dry, for 24 hours, will cure a Felon.

1. **FENCE POSTS—Everlasting.**—Some people may think this rather a presumptuous name to give to a Fence Post; but I take it from the *New York Christian Advocate*, which got it from the *Western Rural*, which gave it as a communication; but the nature of the articles used will undoubtedly justify the "high sounding title," for, if the charring of a Post will do much good as everybody knows it will, why should it not if mixed with linseed-oil, which everybody also knows to be a great preserver. In introducing the Receipt to its readers, the *Advocate* said:

"There is a peculiar satisfaction in listening to the conversation, or in reading the writings of positive men, of those who deal in facts, and with such facts as have but one side and no exceptions. Such a man tells us, in the *Western Rural*, how to preserve Posts for Fences, etc. He says: "I discovered many years ago that wood could be made to last longer than iron in the ground, but thought the process so simple and inexpensive that it was not worth while making any stir about it. I would about as soon have poplar, basswood, or quaking ash, as any other kind of timber for fence Posts. I have taken out basswood Posts after having been set *seven years* that were as sound when taken up as when first put in the ground. Time and weather seemed to have no effect upon them. The Posts can be prepared for *less than two cents apiece*. For the benefit of others I will give the Receipt: Take boiling linseed-oil, and stir in pulverized charcoal to the consistency of paint. Put a coat of this over the timber, and there is not a man who will live long enough to see it rotten."—*Advocate of Oct. 17th*,—72.

This *Everlasting paint*, is undoubtedly far superior to the coal tar, that has been used by many for a similar purpose, and the difference in cost will not be sufficient to keep any one from using it.

Many people think that the seasoning of Fence Posts, adds much to their durability—there is not a doubt of it; but there is still another point of great importance, and that is, of putting the butt end of Posts up, also in frame buildings, it has been verified by old mill-

wrights as an *invariable*, fact, that mill posts, set butt end up more than doubly outlast those set top end up.

2. Another.—I will mention the improved plan of using coal tar, as a preservative for Fence Posts, or for railroad timbers, etc :

Coal tar, 5 gals.; quick lime (stone lime freshly slacked), and finely pulverized charcoal, of each, 1 lb.

The charcoal and the stone lime are both to be finely pulverized, and the tar made hot, in an iron kettle, then the powders stirred in—keeping these proportions for all that may be necessary to use. Apply hot, with a brush, or by dipping the Posts into the mixture, while hot. One advantage of this, is, its proof against insects.

3. Fence Posts, Piles, and other Timber—French Method to Prevent Decay.—The following Receipt for Preventing Decay of Posts, Piles, etc., was sent to the *Societe d' Encouragement*, of Paris; with the remark that when the paint was used "it becomes as hard as stone, resists dampness and is very cheap. It has been used 5 years; and is made as follows :

"Rosin, 50 parts (ozs., or lbs.); finely powdered chalk, 40 parts; fine, clean and hard sand, 300 parts; linseed-oil, 4 parts; red oxide of lead and sulphuric acid, of each, 1 part."

The rosin, chalk, sand, and oil are melted together in an iron kettle, and the lead and acid are then added, the acid slowly, carefully mixed and applied hot. If not found sufficiently fluid, add sufficiently more linseed-oil to allow it to spread well. When cold and dry, it forms a varnish of the hardness of stone.

In applying this to any of the Fence Posts to be set in marshy places it should come above the point where water in wet times, shall stand. And I suppose properly to the whole Post.

4. Extensive experiments in Europe and the East Indies have settled the fact of the value of pyroligneous acid for preserving Timber from rotting, that is to be placed in the ground—rail road sleepers—more particularly, have been tested with it, and it has not been found wanting. But sleepers, or as they are called in this country, ties, which were laid down with them, alternately, it has been found necessary to re-place, or be re-supplied, two or three times, before the decay of those which had been painted, thoroughly, with the acid.

The first recommendation of this article for this purpose was made in this country, and published in the New York *Daily Advertiser*, in 1823, and as no railroads then existed, it was recommended chiefly for ship and boat building, in the following words :

"When seasoned Timber, or planks are hewn into the intended shape, put them under cover for a week, or 10 days to protect them from the rain. During this time let the acid be applied to the surface daily with a brush. It will penetrate an inch, or more, into the wood and will be found an effective Preservative. The central part of the wood, or heart of the oak being less liable to Decomposition, it will require less of the acid. The frame of the ship, or boat may be put together when all of the external parts of the Timbers are completely saturated. *Green Timber cut in thick forests, after being saturated with this acid, will be nearly as good for ships, steam and canal boats, as the teak wood of the East Indies, or the live-oak of our sea-coasts.*"

FERMENTATION.—To Prevent in Wine and Cider.—I see it stated in scientific papers that Wine and Cider which has been allowed thorough Fermentation with access of air, and then sweet-

ened with refined sugar is *not* subject to *after* Fermentation. I can endorse this, so far as Cider is concerned, having racked off 10 gals. from a barrel of Cider which had been allowed to Ferment two weeks, the bung being out, to which I added 10 lbs. of nice white sugar, and it has not Fermented since, now over a year; but what I allowed to remain in the barrel, without racking off, although I added $\frac{1}{2}$ lb. of sugar to each gal. yet it did continue to Ferment, and has become, now, as the saying is, "sour enough to make a pig squeal," which, to me, proves the necessity of racking off from the pomace, and also, probably, that $\frac{1}{2}$ lb. of sugar is not enough for a gal. The Wine, or that racked off, although still standing in a keg, is very nice—the sugar adds to its alcoholic strength, as well as to Prevent its Fermentation, no doubt.

FEVER SORES.—Successful Treatment.—White vitriol, 1 tea-spoonful; copperas, 3 tea-spoonfuls; gunpowder, 5 tea-spoonfuls, soft water, 1 qt.

Put the articles into an earthen, or glass dish, and pour the water upon them, boiling hot, and stir till cool. Let it settle, and bottle the clear liquid for use. It will be very black while stirring, but settles very clear. Wash the sores 3, or 4 times daily. It is equally valuable for fresh sores, cuts, etc. Large numbers of Fever Sores were cured with this in Canada, by a gentleman who traveled there for that purpose. Then I take it for granted that it will do equally well for those residing in the United States.

FEVER AND AGUE, OR INTERMITTENT FEVER—St. Louis Remedy.—While I was in the Russell House, at Sauk Rapids, Minn. I had a gentleman and his family, by the name of Hickman, from St. Louis, Mo. stopping with us for some time, who, when he learned that I was the author of "Dr. Chase's Recipes," and would probably write a *second* work of a similar character, he presented me with their plan of "Curing Ague," which he had used for some time, and knew its value; and which, from the known nature of the articles, I can fully endorse, and recommend, being much the nature of my Chologogue. It is as follows:

Peruvian bark, red, and cream of tartar, of each, 2 ozs.; colombo root, gentian and orange peel, of each $\frac{1}{2}$ oz.; rhubarb root, and chinoidin*, of each, $\frac{1}{2}$ oz. All the articles needing it, to be pulverized. Whisky, 2 qts. Mix and stand a week, or 10 days.

Dose.—From a tea-spoonful for a small child, to 3 table-spoonfuls for a man, 3 times daily.

Fever and Ague, and Boils,—Long Standing Remedy.—The ground centaury (*polygala nuttallii*, in English Nuttall's polygala, or ground centaury plant), is "tonic, alterative, diuretic, and anti-furuncular" (opposed to boils). "It is much used as a diuretic medicine on Long Island, N. Y., where it has the reputation of being almost 'infallible' (specific), 'as a Remedy in Fever and Ague. Two, or three drs. of the plant made into a strong decoction, or tea will act as a purgative. It is much used also as an *alterative* in Boils eutaneous, or skin eruptions, and *especially* in *erysipelas*. A gentleman who had a large Boil under his arm, which was on the verge of suppuration, and had several smaller ones on his arms and body, macerated" (steeped) "about 2 drs. of the plant in whisky, $\frac{1}{2}$ pt. of which he took

**Chinoidin* is found in the Peruvian bark, and of a very similar nature to quinine; but by some persons is preferred as a substitute for quinine.

a table-spoonful, 3 times a day. On the second day, after commencing its use, he discharged nearly four times the usual amount of urine, which weaken him considerably; his appetite improved very much, and his Boils disappeared without suppurating. I have found this plant *decidedly efficacious in erysipelas and Boils*; and I take pleasure in recommending it to the profession as a valuable remedial agent, whose powers are not yet fully understood."—*King's American Dispensatory*.

I need only add here, although I have not had opportunity to try this article, yet, I have always found that Prof. King's recommendations have been found reliable; hence, while he recommends it to the physician, I recommend it to the people.

FILES—To Re-Cut, and other Tools To Sharpen, by the use of Acids.—The *Scientific American* informs us that "a very interesting and economical process has been exhibited before the Société d'Encouragement, of Paris, France, by M. Werdermann. Well-worn Files are first carefully cleaned by means of hot water and soda, to free them from grease, or oil; they are then placed in connection with the positive pole of a battery, in a bath composed of 40 parts of sulphuric acid, 80 parts of nitric acid, and 1,000 parts of water. The negative pole is formed of a copper spiral surrounding the files but not touching them; the coil terminating in a wire which rises toward the surface. This arrangement is the result of practical experience. When the Files have been 10 minutes in the bath they are taken out, washed and dried, when the whole of the hollows will be found to have been attacked in a very sensible manner; but should the effect not be sufficient, they are re-placed for the same length of time as before. Two operations are sometimes necessary, but seldom more. The Files thus acted upon are, to all appearance, *like new ones*. and are said to be good for 60 hours' work. M. Werdermann employs 12 medium Bunson elements for his batteries."

My own judgment is that the only object of the battery, by which means electricity is brought to bear upon the Files, in the process of the cutting, is to save time, doing the work perhaps in a minute that would require half an hour to an hour, to do without the battery; hence it is, I believe a useless expense. The same proportions of the Acids and water, will do the work equally well by simply placing the Files in a jar, with sufficient of the mixture to cover the Files, after having removed the oil and grease with the soda and water, otherwise the Acids will not act upon the Files.

The plan of using a mixture of the *two Acids*, is undoubtedly an improvement upon the old plan of using only *one*.

I find that in Germany, they have long practiced, even putting their edge tools, razors, etc., for $\frac{1}{2}$ an hour, into a dilute Acid—one-20th of muriatic, or sulphuric acid to water, by weight. When the $\frac{1}{2}$ hour is up, they wipe it off, and after a few hours "set" the razor on a hone; and they say "The process never injures good blades, while badly hardened ones are frequently improved by it, although the cause of such improvement remains unexplained."

My explanation of the cause of the improvement is, that the Acid carbonizes (hardens) the surface, or cutting edge. The item first appeared in the *National Intelligencer*, translated from a German scientific journal, which goes on to say.

"Of late, the process has been applied to many other cutting implements. The workman, at the beginning of his noon spell, or when

he leaves off work at night, moistens the blades of his tools with water Acidified, as above, the cost of which is almost nothing. This saves the consumption of time and labor in whetting, which speedily wears out the blades. The mode of sharpening here indicated would be found especially advantageous for sickles and scythes."

The *Scientific American* says "it may be a good recipe, but we cannot, for the life of us, see into its philosophy. We can understand how the dilute sulphuric acid will combine with some of the metal, and reduce it to an oxide" (rust) "but as it will seize upon the edge of the Tool more readily than any other part, how then can it sharpen the edge by biting, or eating it off?" (I say by having *two* sides, to cut on, to *one* edge). "Dilute sulphuric acid is used in all our iron foundries for eating off the scale and reducing the size of castings."

FIRE KINDLERS—Cheap and Handy.—The *Scientific American*, of May 1872, informs us that "In France, a very convenient and economical Fire Kindling is made by dipping corn cobs for about one minute in a bath composed of 60 parts melted rosin and 40 parts of tar. They are next spread out to dry on metallic plates heated to the temperature of boiling water. They are then assorted, according to size, and tied up in bundles. They sell for one to two centimes ($\frac{1}{2}$ cent) apiece. The 'Compagnie des Allumettes Landaises' employs 30 workmen and makes about \$40,000 worth a year."

This will certainly prove a very easy manner for families to prepare their Fire Kindlers; for one corn cob, thus prepared, and lit with a match will burn sufficiently long to start any fair quality of fine wood; and if entered into, as a business, in large cities, would undoubtedly prove profitable. The room, or heat, to dry them will need to be kept at about 200° Fah.

FIRE PROOF WASH FOR SHINGLES.—Sulphate of Zinc (white vitriol), and salt, of each, 1 lb., to lime, 1 bu. made into a wash with sufficient water, and skim-milk, 1 qt. to each gallon, and apply as whitewash.

1. FLAVORING WITH LEMON AND ORANGE.—An easy and successful method of Flavoring with Lemon, or Orange, is, while these fruits are being used freely, with a sharp penknife, cut off the yellow surface, taking as little of the white part as possible. Put these thin shavings upon warm plates, and dry them perfectly; then tie up in paper bags, for use. When needed, pulverize very finely, in a mortar, and sprinkle into whatever is to be flavored.

Lemon, or Orange juice may be preserved several weeks, when one has more than they can use, by mixing it with loaf sugar until it is very thick like sirup, without cooking, then bottle and seal.

2 Fluid Extract of Vanilla, to Make.—Prof. W. Proctor, in the *Am. Jour. Pharmacy*, gives the following method for preparing this extract:

"Cut choice Vanilla, 1 Troy oz., in short transverse slices; beat it to a pulp with 2 ozs. of sugar and a little deodorized alcohol (alcohol prepared for cologne); put the mixture in a small percolator, and pour gradually on, first deodorized alcohol, 4 ozs., and afterward diluted alcohol" (alcohol 90 per cent, and distilled water equal parts, makes diluted alcohol) "till 12 ozs." ($\frac{1}{2}$ pt.) "of tinct. are obtained. Add 2 ozs. of sugar to this tinct. and evaporate it at 120° F., till reduced to 6 ozs.; then add 10 ozs. of sugar and 5 fl. ozs. of water, or sufficient to make all, a pt. Thus made, Fluid Extract of Vanilla em-

bodies all the aroma" (flavor), "and is well adapted to pharmaceutical and cooking purposes."

3. Sirup of Vanilla.—To make a nice sirup of Vanilla add 1 oz. of the above, Fluid Extract, to 1 pt. of simple Sirup.

1. FLOATING ISLAND.—Sweet cream, $1\frac{1}{2}$ pts.; wine, 1 gill; powdered white sugar, 1 cup; whites of 4 eggs; dark colored jelly, or any kind of small fruits desired, 1 cup; flavor with any extract preferred.

Beat the cream, wine, and sugar well together and add the flavor, and turn into a deep glass dish. Beat the whites of the eggs to a froth; then mix in the jelly, or fruit, thoroughly, and pour this into the centre of the first, where it floats. In dipping out, take some of both into each dish.

2.—Another.—Place a vessel containing 1 qt. of milk in one of convenient size containing water, and set on the stove to heat. Whip the whites of 3 eggs until they will adhere to a plate if turned upside down, then with a knife pile into a pyramidal form into a deep dish. Into the yolks beat 3 table-spoonfuls sugar, and a little lemon, when the milk comes to a scalding heat pour the yolks into it, and stir 10 minutes; then dip it, while hot, on the whites, taking care to touch every part with the hot liquid.

FLY PAPER.—Venice turpentine and molasses, in equal portions, melted together and spread, lightly, on paper, plays stick-um-fast, to all that light upon it.

FOOT ROT IN SHEEP.—See *Carbolic Acid*.

FRECKLES TO REMOVE.—See *Cosmetics*.

FRESH GRAPES AT ALL SEASONS.—We once knew a gentleman who supplied his table with Fresh Grapes from one Season to another. His plan was to gather when ripe the largest and finest bunches of Grapes and pack them in saw-dust, using in place of boxes common nail kegs. After carefully packing the desired number of kegs, he buried a lot in a trench dug in high, dry ground, beneath a shed where the water could neither fall nor soak in. Before using the saw-dust, he carefully dried it, either in the sun or in an oven, until it was entirely free from moisture. We never witnessed the packing process, but we know he always had the Grapes, and in this way he told us he preserved them. After being buried for months, the Grapes were as sweet and finely flavored as if just gathered from the vines. The process is cheap and may be easily tested. If it will preserve the Grape, a new and profitable business may be built up. Bunches of fresh ripe Grapes in the Spring would be a novelty; and being that, would command a high price. We hope that some of our Grape-growers will try the experiment.—*Delaware Republican*.

1. FROSTING GLASS.—A strong solution of sulphate of zinc in water, is used upon the inside of Glass, which, after it becomes dry, is covered with a coat of varnish. It prevents people from looking in, and yet does not materially obstruct the light.

2. Another.—Another and perhaps better plan is to take a ball of freshly worked putty, the size of a hen's egg, and cut it into halves, then taking one of the pieces between the thumb and fingers, dab the flat side upon the clean glass until sufficient of it has stuck to the glass to give it the desired appearance of Frosting. This does not require varnish.

FRUIT JELLIES.—To Prevent Moulding.—Cover the surface with pulverized loaf sugar to the thickness of $\frac{1}{4}$ inch; then paste on the paper, as usual, that has been covered on the under side with white of egg, or glazed cloth.

2. In place of the powdered sugar, some drop a piece of white writing paper, into brandy, or alcohol, after it has been cut just the size of the tumbler then lay it upon the top of the Jell, and some use the white of egg, the same as for the outer covering.

1. **FURNITURE POLISHING PASTE, STAINS, FILLING CRACKS AND THE PORES OF THE WOOD, ETC.**—A very nice polish may be given to Furniture by using white wax, $1\frac{1}{2}$ ozs.; Castile soap, $\frac{1}{4}$ oz.; spirits of turpentine, $\frac{1}{4}$ gill; water, $\frac{1}{4}$ gill.

Shave the wax finely and put it with the turpentine for 24 hours; then shave the soap very fine also and boil in the water and mix with the wax and turpentine. Keep covered when not in use. Apply to the whole surface and Polish with a chamois skin or old soft silk.

2. **Black Walnut, Imitation Stain and Polish.**—When it is desired to give poplar, or other light colored woods a finish in imitation of Black Walnut, or to give Black Walnut, itself, a uniform color, take asphaltum and pulverize it and place it in a bottle and pour over it benzole*, twice the bulk. Put in a warm place and shake it occasionally until dissolved. Apply with a brush, or cloth. If it shows too dark, reduce with the benzole. It will soon dry. Then if it is desired to bring out the grain more plainly, use boiled oil and turpentine; but put no oil with the Stain, as it takes longer for it to dry.

To polish, after all is dry, use $\frac{1}{4}$ shallac varnish and $\frac{1}{4}$ boiled oil shaking as used. Apply a little with a cloth and rub briskly. This works well also on old varnished Furniture.

3. Jean John of Rockford, Ill., informs an enquirer for a solvent for gum shallac through the *Scientific American*, that, in place of a solution of borax, which was given by an other, as a solvent, he might prefer the following:

"Heat $1\frac{1}{2}$ lbs. of shellac in 1 gal. of rain water until the gum was soft and stringy; then add 1 lb. of saleratus, which will cut the gum and render it clear. This is used by some Furniture dealers under the name of 'light varnish'."

4. **Another Polish.**—Rosin and bees-wax, of each, 1 oz.; benzine, 2 ozs. Apply with a rag, and Polish with old silk. Touch the least bit of boiled oil, to gloss, as it is finished.

5. **Furniture—To Fill the Cracks and Pores of the Wood.**—Slack recently burned lime, and take *one-third* as much of this lime powdered finely, as needed for filling any Cracks in Posts, or any parts of Furniture, and *two-thirds* rye flour, and mix into a stiff paste with boiled linseed-oil, and fill the Crack, with it, in preference to putty. Color to suit the shade of Furniture, with burned umber, or if for other colored woods use other proper coloring matter, to suit the color for the wood.

This makes a good Filling for the Porous Woods. It is applied, as a Filling, by placing the Furniture so that the face, or surface to be

* Benzole is an oily substance, of great solvent powers, obtained from soft, or bituminous coal. It will dissolve rubber, or gutta-percha, as well as asphaltum. It is used also to clean kid gloves. It is one of the *semi-compositions*—being 6 parts of hydrogen, to 12 of carbon. The spirits of turpentine was formerly used for these purposes, but it is not equal to Benzole as a solvent.

Filled lies level, then apply a good coat of boiled oil, and immediately sprinkle the mixture all over the surface, then with a soft rag rub it well into the Pores, until you see they are all well Filled.

Wipe off all superfluous oil, and mixture. Go over the whole article in the same way. And when it is thoroughly dry, varnish as usual. The surface will be perfectly smooth, if the Filling has been properly done. The lime should be thoroughly pulverized, to avoid scratching. Whiting has been used for the same purpose, but, recently this mixture has been considered the best. But some persons prefer to use the rye flour alone, and in the manner shown in No. 6, below.

6. Furniture Finish, for Black Walnut—and other Porous Woods.—For Finishing Block Walnut, or any other Porous Wood, if it is desired to have a smooth surface, it is important, before varnishing, to fill the Pores, so that the varnish may not enter the Wood, leaving an uneven surface. There are many compounds in use for this, several of which have been patented; but a simple and effectual article is fine rye flour colored for *black walnut*, with a little burned umber; and upon this dark colored Wood, the plan of applying it is to have boiled oil, with a little Japan and turpentine in it, then mix in the rye flour and grind in a paint mill, and work it well into the Pores. For light colored Woods the Japan would have a tendency to darken the shade, if that is objectionable, leave out the Japan.

GALL-STONES, OR BILIARY CALCULI.—Successful Remedy.—The hardening of some portion of the Gall in the Gall-bladder although they take the name of Gall-Stones, they do not partake very much of the nature of stone, as in the kidneys where it takes the name of *gravel*, and is considerably like a stone; while the first is more like dried Gall itself, which it probably is, or, rather, I should think, *condensed* Gall, for I do not see much chance for it to dry in the Gall-bladder, surrounded with the fluid, of which it seems to be a part; but it may be a chemical combination—there being such a state, or condition of the liver, that some of the component parts of the *bile* readily combine with other parts forming these Gall-Stones.

Warren says: "These stones, so-called, are composed, chemically, of cholesterine" (a stiff fat; a fatty substance resembling spermaceti), "bile pigment" (the coloring matter of the bile), "choleic acid" (an acid found in the bile), "choleate of soda" (the choleic acid combined with soda found in the system), "mucus, earthy salts, and margarin" (a pearl-like substance found in some of the vegetable oil, and in the fat of some animals) "and its compounds. A nucleus" (center, or point) "seems to be first formed, and then a gradual accumulation takes place upon its surface."

These words—cholesterine, choleic, choleate, etc., undoubtedly come from the word *choler*, signifying *anger*, or *wrath*, derived from the French *cholere*, Lat. *cholera*, and a Greek word also, all, in their respective languages, signifying the *bile*, which was formerly believed to be the *seat*, or *cause of anger*, which is injurious to any one, hence, these words would indicate something *bad*, or *vicious*, as against a *healthy* condition of the bile, which is the fact.

Cause.—But few writers pretend to give a Cause for the formation of Gall-Stones, except it be "found in the constitution of the bile"! astonishing, indeed, that is plain enough, they hit it the first time! But what is the Cause of this particular "constitution of the bile?" In

our opinion, a degenerating condition of the general system, and a changed condition of the liver, especially by which, in place of the fat, which usually goes to the whole system, is turned upon the liver, causing what is known as "fatty liver," but which is also somewhat prevented by the turning of this fatty substance—cholesterine—into Gall-Stones. To substantiate this idea, I depend considerably upon the following explanation:

Although but few medical writers pretend to be satisfied that they can give the *true* Cause of this disease, yet fewer pretend to give a *certain* cure—only seek to give relief by anodynes, anesthetics (such things as produce insensibility), etc., to deaden the pain as the Stones are passing through the biliary duct, or pipe which connects with the hepatic, or main duct leading from the liver into the duodenum, from the *Lat. hepar*, the liver; and thus pass into the intestines to be passed off with the feces; while *Gravel, or Stone* from the kidneys pass into the *urinary bladder*, and these sometimes accumulate to such a size that they have to be cut down upon, or rather cut up to (as the cutting is from the *perineum* which comes from a Greek word meaning *scrotum*, or bag, literally meaning then, the part between the *anus*, and genital organs—the lower end of the body) and removed, the operation being called lithotomy, from Greek words signifying a stone, and to cut; and although it has usually proved a very dangerous operation, there has been only a few persons who have proved competent to the work.

It gives me very great pleasure, therefore, to lay before the public, *a complete cure for both of these diseases.*

Symptoms.—Persons who have Gall-Stones in formation, and passing, will have an almost constant uneasiness in the region of the liver (in the right side under the short ribs), and near the "pit of the stomach," with frequent spasms, or greater severity of pain, 2, or 3 hours after eating, like the pains of colic, causing him to roll and tumble upon the floor, bending himself nearly double, perhaps; and also causing him to press upon this region, by which he sometimes obtains relief. These severe paroxysms of pain are caused by the entrance of one of the Stones into the ducts which are too small to allow them to pass without great distention, and sometimes pain is also caused by even rather small stones whose edges are rough and jagged, tearing their way, as it were. The excruciating pain stops when the Stone reaches the duodenum, or upper intestine, by which route it is passed by "stool."

These severe pains cause very great exhaustion, the pulse being weak, the face pale, and the whole surface covered with a clammy sweat. The greatest danger arises from the stoppage of a large Stone in the duct, called an "*impaction*," and it can, only hope to be passed by great relaxation of the whole system.

The general remedies have been the carbonate of soda, 2 drs., to water, 1 pt. to counteract the acid stomach, from which it was supposed the Stones were formed. The solution was to be taken hot, and in large draughts; and full doses of opium to relieve the pains. FOMENTATIONS, which see, of hops stramonium (Jamestown Weed, or "jimson"), or poppy-heads, were recommended as local applications; and finally a hot-bath, or the vapor-bath to produce free perspiration, with an infusion, or tea of *asclepias tuberosa* (pleurisy root) and lobelia, to produce complete relaxation; and if the patient was not relieved, the use of chloroform to control the pain, was the final resort.

Prof. Scudder says that "various remedies have been proposed as a solvent" (capable of dissolving) "Gall-Stones, but with *very little*, or *no success*; the one most relied on was a mixture of *three parts* of sulphuric ether, with *two parts* of spirits of turpentine.

"At present, however, soda and chloroform are used for this purpose. It is believed that *cholesterine* is held in solution by a salt of soda, and that its deposit" (as in Gall-Stones), "is evidence of a deficiency of this salt; hence the bi-carbonate and sulphite" (of soda) "are used in doses of 5 to 10 grs. 3 times a day. Chloroform," however he says, "is the best solvent for cholesterine, and is given in doses of 10 to 20 drops, *once a day*."

Should it not then "give me the greatest pleasure" as above remarked, to be able, as I fully believe, to give a *complete cure* for this terrible disease, as shown in the letter below?

Treatment.—I will give the Treatment of this disease by saying, that from the time that I first commenced to write this Work, there has been manifested, by almost every one of my friends and acquaintances, especially those of a *literary* taste, not only a willingness, but an *anxiety*, to aid me in placing such things before the *people* as should make "Dr. Chase's Second Receipt Book" really and truly what might be expected of a man who had spent almost a lifetime in this branch of *medical and practical science*. To this end a gentleman by the name of Perkins, formerly a resident of this city told me of the cure of Judge Paine, of Cleveland, O., of the terrible disease now under consideration,—Gall-Stones,—by the use of sweet-oil. And as I had not then heard of, what I now believe to have been the origination of this plan, with Dr. Pitcher, of Detroit, formerly Prof. of Practice in the "University of Michigan," I at once addressed a letter of inquiry to Judge Paine, asking him as to the *facts* of the case, and whether he was willing, for the benefit of others suffering under the disease, to let his name go before the public together with all the information he could give me on the subject. In answer to the enquiry I received the following letter; and I take this public method of acknowledging my indebtedness to the Judge, and in the name, and for the sake of humanity, I thank him for it; and I would also add that I have not a doubt but what those who may use the same plan, shall receive the *same benefit*. Other cases soon after came to my knowledge, as seen below, that fully confirm and establish the success of the sweet-oil Treatment. Judge Paine's letter, or answer was as follows:

OFFICE CLERK COURT OF COMMON PLEAS, }
CLEVELAND, O., August 21, 1871. }

HORACE FOOTE,
SAMUEL B. PRENTISS, } *Judges.*
ROBERT F. PAINE, }

DR. A. W. CHASE:—Your favor of the 17th, is before me, and it affords me pleasure to comply (as far as I am able) with your request.

In 1864, at the age of 54, and weight of 210 lbs. I found myself gradually declining in health, and energy, at times, subject to the most intense pain in the region of the kidneys, back, and at the pit of the stomach. These attacks grew more frequent and severe, and to my friends and physician became alarming. I was supposed to be laboring under the worst form of dyspepsia, and was treated for that by em-

inent men of all Schools. I had but little faith in any School, and therefore tried them all, and it took them two years to reduce me from 210 to 150 lbs. and to convince me and my friends that there was no help for me but the grave; and my sufferings were such that, at times, this was not an unpleasant thought. At this point I learned from a layman—not a doctor—that I had no dyspepsia, but Gall-Stones, and the lay brother prescribed and I took his medicine and was perfectly cured. His remedy was two East India pills (see explanation following this letter) upon retiring. These did not operate as a cathartic, but were a little loosening. The 2d. night upon retiring I drank a half pint of Olive oil. The third night I repeated the oil, and the next day I passed 38 Gall-stones of different sizes from pigeon shot to the half of a chestnut. The fourth night I repeated the oil, but had a passage of only a few Stones, and they small. I immediately began to improve and continued to do so for a month; when I was again taken as bad as ever. I turned down the oil three nights in succession with about the same result as before, and improved again. These attacks continued and were Treated in the same way for *six months*, when I found myself *entirely relieved*, and the doctors in possession of more than 140 Gall-Stones. I have had no trouble from any cause since. My health is good and my weight about 200 lbs. The pills did not seem to be indispensable, although they doubtless helped the oil. When the oil is taken, the stomach should be as free as possible from acid, and kept so for the night. The pills I took were procured from Doctor Mendenhall, of Cincinnati, but I was never able to get any more. This is very briefly my condition, Treatment, and the result. If it should contribute in any way in relieving the dreadful suffering I endured for two years I shall have been well paid for writing, and you rewarded for whatever use you choose to make of it.

Yours, in great haste,

R. F. PAINE.

About the time of receiving the foregoing letter of Judge Paine, I learned that a friend, Chauncey Joslin, Esq., a lawyer of the city of Ypsilanti, Mich., had also been cured of the same difficulty, by the same Treatment. I therefore called upon him and learned the following facts, *i. e.*, that, as he believes, and as I now believe, the use of sweet-oil, in the cure of Gall-Stones, originated with Dr. Pitcher, as above mentioned, and in the following way. He had a case under Treatment, a lady who was very bad, and at the same time, he was reading the History of Sicily, where Gall-Stones are not known, and where a large amount of pure Olive oil is used, at least as freely, and for about the same purposes for which we use vinegar. This struck him as peculiar, and he at once concluded that this free use of Olive oil, and the use of the fruit as a *pickle*, accounted for the absence of the disease in the Island of Sicily. Concluding then that what was good as a *preventive*, would be good as a *cure*, he at once commenced its use, to the great relief, and final cure of his *first*, and afterwards many other, patients, until finally he adopted the following method of giving it:

1. Give an *injection* of the smallest possible amount of warm water, say $\frac{1}{2}$ of a tea-cupful, into which put tartar emetic, 2 grs. and laudanum, 3 fl. drs. The reason of giving this by *injection* is to relax the system, relieving the pain, and to avoid disturbing the stomach, but to leave it clear and free for the retention of the oil.

2. Ten hours after the injection has been given, give of the purest Olive, or sweet-oil, 6 to 8 ozs. All to be taken at a draught.

It will be seen, above, that Judge Paine followed the oil plan, for 3 nights in succession, or until he began to pass the Gall-Stones, or one night hope, until he had passed all—38. And this plan I should certainly recommend; and the *injection* might also be repeated if there was pain from passing the Stones through the small ducts.

The above explanation of Dr. Pitchers reasoning was given me by Mr. Joslin, as having been received from the Doctor, himself, when he called upon him for Treatment; and, notwithstanding, that Dr. Pitcher was a "regular" physician, his prescription had not come "through the books," hence, Mr. Joslin informed me, that the Doctors of his own city, discouraged him from using it, although they could not cure him, calling it a "humbug" (and yet Dr. Pitcher was a member of their own School—*Alopathic*—I should say of *no school*, if not willing to learn), yet it cured him, and *six* others, to his knowledge, one of which, however, from not obtaining a *pure* article had to do the work over again. Mr. Joslin further informed me, that he has not felt a symptom of the disease since his cure *three years ago*, and knows of none with the others. The "East India Pills," mentioned in Judge Paine's letter was no doubt composed of the same materials as Dr. Pitcher's Injection, got up by some one who had heard Dr. Pitcher's explanation, in order to blind his patients, and make them think that no one else could perform the cure without them; but I fully believe, with the Judge, that the "pills," nor the "injection, are indispensable," but that they relieve the pain of passing the Stones through the small ducts, by relaxing the system, when pain is present, there is no doubt.

I trust that no one after reading this array of testimony will have any doubt of giving the sweet-oil plan a fair and full trial. I would also refer here to the Treatment of "GRAVEL," which, I believe, will also prove perfectly satisfactory. It will be seen that the name of Jocelyn—not Joslin—occurs in that disease. These gentlemen although spelling their names different, and not known to each other as blood-relations, have undoubtedly sprung from the same English stock, and by the freak of some of their forefathers, the spelling of one, or the other has been changed; but that is a small matter, as compared with the cure of Gall-Stones, or Gravel.

GENERAL DEBILITY.—In the *Spring*, more especially than at other seasons of the year, many persons are afflicted with a feeling of General Debility, *i. e.*, of great weakness, and sometimes with a sense of *sinking*, or faintness, yet having no especial pains, and no particular apparent cause to attribute the difficulty to, the whole system, however, being in about the same condition—weak and feeble.

Cause.—I think the Cause arises from a change in the temperature, food, and, in many cases, neglect of the general health, *i. e.*, during the Winter the cold air has stimulated to exercise, and called for more than the usual amount of food, while, at the same time, bathings, because "it is cold" have been neglected, so has cathartics, diuretics, and other necessary precautions to maintain good health, had also been overlooked, as the extra exercise, above referred to, and the general hilarity of the season has enabled many at least, to pass along without any apparent inconvenience from these neglects; but now comes on the *warm*, and often the *damp* weather of Spring, which gives no stimulation to the *skin*, but rather weakens it, while it is also more,

or less clogged for the want of proper cleansing, this is thrown back upon the internal organs, and a General Debility, or an actual disease is soon manifested, as a perfectly natural consequence.

Treatment.—If bathings, or general washings of the whole surface have been neglected through the Winter, they must now be resorted to as often as *once*, or *twice* a week, at least, saline cathartics, as cream of tartar and sulphur, citrate of magnesia, or the Seltzer Apperient found in drug stores, or such cathartic as any one is in the habit of using, or can easily obtain, must be used to thoroughly cleanse the system and prepare it for some of the tonic bitters, or the root beers, or sirups as given below, will soon set most persons all right again, and those who do not soon receive this general benefit, have only to faithfully continue the course a little longer. The beer, or sirup referred to may be made as follows:

Take the bark of the root of sassafras, common black cherry-tree, bark, sarsaparilla, dandelion, burdock and yellow dock, the roots of each, and of each a good sized handful amounting to 3, or 4 ozs., may be taken; and in sections where they grow, a few twigs of spruce, or of spicebush, or as we used to call it in western New York, fever-bush, may be added.

Let all these articles be moderately boiled in 2, or 3 gallons of water for several hours, or until the strength is well out; then strain, and if it is preferred to use as a *sirup*, boil down to a proper consistence, or quantity, then add white sugar at the rate of about 2 lbs. to 1 qt., of the very strong decoction, and dissolve by heat; then add $\frac{1}{2}$ pt. of the best rye whisky to each qt., of the sirup; or otherwise keep it in a very cool place so it shall not ferment.

Dose.—A table-spoonful to, 2, or 3 table-spoonfuls, according to the age, size, and robustness of the person taking it.

But a very satisfactory way is to add sufficiently more warm water to the decoction, when strained into a keg, to make about 5 gals, then add about 1 lb. of sugar to each gal., or sufficient to give it the proper sweetness to the taste, with yeast to cause it to ferment, as a *small beer*; then, as soon as it has begun to ferment, drink a common tumblerful of it with each meal, and as often *between* meals as you like.

Let this course be pursued by *every family, every Spring*, and there will *not* be *one-half* of the present amount of sickness, especially if the *beer* and *cathartics* are faithfully attended to for 3, or 4 weeks—a cathartic being taken at least *once* each week.

GRAVEL—STONE, OR URINARY DEPOSITS.—The formation of the system is such that any substance which may be introduced into it, in food, or drink, which do not go to build up and support it, as well as worn out matter, shall be carried off largely, by the kidneys, which, not only form a kind of strainer, but also a pumping apparatus to free the system of all surplus water wherein are found, sometimes acids, then again alkalies, and sometimes calcareous, or Stony matter, as also the over abundant salts of such minerals as are found in the food, or drink, as above remarked. And sometimes some of these elements, or first principles that go to build up the system, one found in excess of the natural wants, and it is deposited, or found in super abundance in the urine, by letting it stand in the vessel containing it, and sometimes they may be found to be of a character not found in healthy urine; and they may be deposited in

the kidneys, ureters (small tubes, or pipes that carry the urine from the kidneys to the bladder), or in the bladder, where they take the name of "Gravel;" but, in perfect health the urine does not deposit any thing of this character until after it has undergone decomposition—in other words, in perfect health these elements are found in such harmony of combination as to cause no disturbance.

The infant, or youth, the middle aged, and the old are all subject to this disease.

Cause.—The positive, or absolute cause of Gravel has not been determined with any degree of certainty; but the prevailing opinion is that it is found most frequently in persons of a weak, or debilitated condition; and, hence, whatever will *correct* this tendency to debility, or weakness, will also have a tendency to *prevent* Gravel.

Sources of Urine.—It will aid, perhaps, in understanding, or judging of the *cause* of Gravel, to condense the foregoing remarks by saying that the *chief* sources of urine are, *first*, from an *over abundance* of *fluid*, or drink, taken into the stomach, which if not soon pumped off by the kidneys would greatly embarrass the functions, or peculiar work of the system—*second*, from *imperfectly digested food* by reasons of which an *imperfect assimilation*, or adaptation of the food, or some parts of it, are not prepared to build up the system, but must be thrown off by the kidneys—and the *third* source of urine is found in the *worn out particles of the system*, which have done their work, but must then be got rid of, to prevent their decay in the system, by which its utter destruction would soon occur.

Composition of Urine.—The Urine, in a healthy state contains Urea (one of the elements, or component parts of the urine, coming from the Greek words which signify *Urine*, and *to make water*—it is separated from the blood), Uric acid (also called lithic acid, coming from a Greek word meaning a stone), sulphuric acid (an acid containing sulphur), phosphoric acid (an acid containing phosphorus), lime magnesia, and phosphate of soda (phosphorus and soda combined); but it is only, as before remarked, that this disease occurs when one, or more of these are found in *considerable* excess.

To ascertain whether the Urine is *unduly* acid, let a piece of *blue* litmus paper (kept by druggists, or book stores) be dipped into it, and the acidity of the Urine will turn the blue paper to a reddish, or red color, according to the degree of acid present; but if the blue is not changed, then dip in a piece of *red* litmus paper and if the Urine is alkaline, it will be changed to blue. If no change occurs, in either case, take it for granted that the difficulty is in some other portion of the systems; but if undue acidity, or alkalinity is found to be present, the opposite—alkalies, or acids as the case may be, are the proper remedies.

Symptoms.—Sudden pain in the region of the kidneys, sometimes so severe as to cause the person to faint away, or to have convulsions. The pain may extend down to the groin and thigh, leaving a numbness upon the side affected, and, if a male, a retraction, or drawing up of the testicle, on that side. The pain is caused by the passage of the Stone, or Gravel through the ureter, or tube leading from the kidney to the bladder, similar to that of *gall-stones* passing through the gall-duct. The severity of the pain of course, depends upon the size of the Gravel, or upon the roughness of its surface; and the pain ceases when the Gravel stops moving along, or when it reaches

the bladder; sometimes, however, they are so small that none, or no considerable pain is felt in passing through the *ureters*, or in passing the canal leading from the bladder, called the *urethra*,—the greatest danger arises from some of these particles remaining in the bladder, forming a nucleus, or center to which other particles adhere, until a Stone, or Gravel of such dimension is formed that it cannot be passed, and for which, heretofore, *lithotomy* (the act of cutting and removal, as mentioned under the head of GALL-STONES), has been the chief remedy—crushing, however, has also, sometimes, been performed, called *lithotripsy*, by introducing forceps, made for the purpose, into the bladder, through the *urethra*, to crush the Stone so finely as to allow of its passage with the Urine, then to wash, or rinse out by introducing, or injecting water into the bladder by the same passage.

Treatment.—The general Treatment of this disease has been so unsatisfactory, that it gives me very great pleasure to be able to lay before my readers a course, or plan of Treatment which has proved so eminently satisfactory in the case of Dr. Jocelyn, President of Albion College, Mich., that it leads me to hope that it will prove, generally, as satisfactory to others as it has to him, and of this I have no doubt, provided, that the same watchfulness and care should be given by others who may have occasion to use it as he has done in his own case.

And it will be but proper for me to state, here, that I have been well acquainted with Dr. Jocelyn for several years, and have done considerable printing for him, or rather for the College under his direction. And while he was at my office, at one of these times he mentioned the fact of having had the personal experience that gave him this knowledge, and expressed a desire that it might be given to the world through my first book of "Recipes," which I was then publishing, but as that work was stereotyped it could not be put in; and, hence, was not obtained until the writing of this, "Dr. Chase's Second Receipt Book," for which he has taken especial pains to prepare it, after my request for him so to do. His answer to my request was in the following words:

MY DEAR DOCTOR:—You ask me for my "Cure for Gravel." That is probably dignifying the matter with too great a name. I will, however, give you the history of my own case. If it shall aid any poor sufferer, I shall be more than repaid.

From early boyhood I had some difficulty with my kidneys. About 1860, when 36 years old, I was attacked with "Gravel." I was pronounced, probably, incurable. The concretions formed in the pelvis of the kidneys. Some were pure lithic acid crystals—others were lithate, or urate of lime and resembled what some call, "Mulberry Calculi." I have lain as long as five days in one attack passing more, or less "Gravel" each day. Have been *twenty hours* in passing one piece from the kidney to the bladder. I had no trouble after the concretions reached the bladder—they passed the *urethra* without any serious difficulty. The difficulty was in the ureter, the passage from the kidney to the bladder. I tried various and sundry remedies, the first ones, of course, were recommended by my physicians, all with about the same result. The last "attack of Gravel" I had was in September, 1863. (It is now Jan. 1st, '73). I have had some uneasiness since, and quite frequently, for a time, passed red sand; but since Sept. 1863 have not lost a day from the disease.

I used buchu, niter, juniper berries and whiskey, gin, lager beer, at times as they were recommended to me, with little if any benefit. The alcoholic and malt preparations, I think, were injurious. I am confident that in my case they increased the tendency to the formation of Gravel. Hence I would say *avoid* all such liquors in Gravel. I used spearmint, gravel weed, cleavers, and various other home-spun remedies, but found them simple diuretics. I also used "seven barks," or "nine barks" (*hydrangea arborescens*—very good to expel the formations from the bladder), and many other preparations, but grew no better.

After some months of experiment and much inquiry, and reading, and consultation, and prayer, I settled upon the following course, persevered in it, and under the blessing of God, I think, I am cured.

1. I neutralized the acidity of my stomach by the use of bicarbonate of potash, in doses as large as tea-spoonful doses, three times a day—oftener and larger if necessary to neutralize the acidity of the stomach. This frequently rendered the urine alkaline—as shown by the test of litmus paper. The use of the bicarbonate of potash sometimes produced a heavy, unpleasant sensation at the neck of the bladder which was speedily relieved by using tea-spoonful doses of the bicarbonate of soda 2, or 3 times in the place of the bicarbonate of potash.

2. I used a meat diet chiefly, and plenty of it—mostly rare beef, and avoided all fruits and vegetables that would increase the acidity of the system. Lemons and apples were almost the only fruits I could use with impunity. A glass of crab-apple cider 2, or 3 times a day, at meals, or pure hard cider, not too hard, would sometimes aid me. *I used the cider part of two Winters with benefit.*

3. Good coffee, the best Java, *without milk, or sugar*, used at each meal, and sometimes at night, cold coffee, before retiring, helped me much. The regular use of the best Java coffee, as above, *I consider one of the most beneficial things I did.* Tea was an injury to me.

4. I ate *freely of raw onions*—the large red onion is the best—at them at each meal. Cooked onions were worthless.

5. When I needed a diuretic, (and I always used one if I found any sand in my urine,) and after a day, or two, followed it with the "Constitution Water, (an article kept by druggists). I used equal parts of uva ursi and buchu—using $\frac{1}{2}$ tea-spoonful, each, of the fluid extracts for a dose, every 3, or 4 hours. *This makes the best diuretic I have ever found.*

If I became the least costive I used "Tarrant's Seltz" or "Aperient." When not using the bicarbonate of potash, I would very frequently use a little of the Aperient, daily.

7. As a medicine to change the secretion of the kidneys I depended upon "Greggs Constitution Water," taken according to directions. I would take a bottle, or two and then desist for a time; then take half a bottle, or a bottle, depending upon my symptoms and then desist entirely for a time. While taking this I did not use the potash, or the soda, unless I had a sour stomach, and then only enough to neutralize the unnatural acid of the stomach. Nor did I use the diuretics at this time; but I did use the *onions* and the *coffee* and a good well selected nutritious diet—one that would not be likely to sour on the stomach.

8. I gave up the use of hard water and used filtered rain water.

9. When suffering from a "fit of the gravel" I depended mainly upon the *hot* bath—the whole body in water as hot as I could bear it, and as long as I could endure it. When not in the bath, local applications of flannels wrung out of *hot* water applied to my back and sides aided me. The use of the hot bath was to *relax* my system that the Gravel might pass. I also used the diuretic at this time. If not suffering so much that I was compelled to use the bath, I smoked tobacco and drank coffee *freely*. When in those fearful paroxysms of pain occasioned by the passage of the Gravel, in addition to the use of the hot bath, and diuretics the doctor would give me quite large doses of morphine and ipecac, how much I do not know, as I depended on him for the dose, not using narcotics at any other time as they were injurious to me.

I believe my dear Doctor I have told you all I did for the Gravel. I think I am cured, I have not had a "fit of the Gravel" since Sept., 1863. I was troubled with uneasiness and the passage of red sand occasionally for some time after that.

I am still careful of my diet. I avoid, or eat very sparingly of most of the acid fruits. Apples and lemons are the only two that I can eat with impunity. I do not know that others can do even that, and they might eat fruits that would ruin me. Some have recommended the use of the pie-plant and similar fruit. Pie-plant, strawberries and all such fruit I was compelled to give up while recovering, or neutralize their acid in the stomach, with bicarbonate of potash. I eat sparingly of them now, or destroy their acid with the potash, or soda, as I do not desire to run any risks.

I think that by the course indicated above, and by careful attention to what is eaten—eating plenty of wholesome food—avoiding all that disagrees with one, or sours on one's stomach, many may be aided, and very probably cured of this terrible disease.

You will please pardon the length of this letter; and if after reading it you deem its suggestions of sufficient importance to occupy a place in your "Second Receipt Book" you may publish them.

JOCelyn.

Although I cannot follow this case by speaking of as many cures by it, as in the treatment of GALL-STONES, yet, in a few cases where there were positive symptoms indicating more, or less difficulty of this character; it has given such satisfaction, that, with the known nature of the articles used, I have the fullest hopes, of its general success.

G. MISCELLANEOUS. G.

GARDEN COMPOST, OR MANURE.—Persons living in cities, or villages, who keep but few, or even no domestic animals, about their stables, may still make quite a quantity of Manure for the Garden, with but little labor. The plan is to carry back all the grass mown from the lawn and begin 2., or 3 Compost heaps, upon which throw slops from the house; then the grass and weeds that are hoed, or pulled from the Garden must be added to them, at each hoeing, and all the offal and slops from the house be continually added to the piles, in rotation, being careful to pull all the weeds before the seed is ripened; then with the leaves that are shed in the Fall, together with the accumulations of the hen-house, and piggery, to be intimately mixed with the Compost heaps, and at the proper time, spread upon the Garden, it will be found valuable, and also very considerable, yearly, in amount.

GIRDLED FRUIT TREES, BY MICE, TO SAVE.—When Mice Girdle Fruit Trees, in the Winter, for want of other food, if there is snow on, and the ground frozen, cover up with snow and tramp down solid, until a thaw comes on, then bank up the earth to cover above the wounds, even if it goes clear around, and the Trees will be saved. If two high for banking up, cover with clay and tie on with cloths.

1. GLASS CUTTING, FOR HOME USE.—Common thin Glass can be Cut very satisfactorily by taking an old worn-out three-cornered file, grind the end to a three-cornered point; heat it red hot, and immediately plunge it into a mixture of snow and salt, or cold water and salt. Re-touch it on the stone, to remove the scale, and it is ready for use. If rightly done it will give very good satisfaction. In using it hold the file nearly perpendicular, slightly inclined forward, and with a gentle pressure draw it rapidly over the Glass, without changing its inclination to the surface. In Cutting thick Glass, it is safer to cut on both sides before attempting to separate the pieces, but thin Glass may be Cut with the greatest facility. When the point becomes dull from use, it will produce only a ragged surface—scratch—but will not Cut. It then needs re-grinding. A single turn of the stone is sufficient to put it into working order again. Such a Glass Cutter is very serviceable for preparing Glass for various purposes, using a straight-edge, of course, as a guide.

2. Ground Glass, Imitation, for Windows.—To make Window Glass, in fronts, have the appearance of Ground Glass, and keep people from looking in, take a pale varnish and put in a small amount of Paris white, and apply as a paint. Light is still admitted freely through it.

GLOSS, OR STARCH POLISH.—To give shirt bosoms, collars, etc., a fine Glossy appearance, when ironed, make the the Starch as follows:

Take a piece of white wax the size of a small hickory-nut, and shave it finely, and put it into the dish with the Starch for an ordinary washing containing $\frac{1}{2}$ doz. shirts and a doz. collars, and pour soft, boiling water, upon it. It will dissolve about as readily as the Starch, and gives the desired Polish. Spermaceti, or finely pulverized gum Arabic, in the same quantity, will answer the same purpose.

To give the shirts the best appearance, Starch them through the above, before they are hung out to dry; then in place of sprinkling, before ironing, take a spoonful, or two of Starch, according to the amount of shirts, collars, etc., in the wash, and wet it up with water only so hot that the bosoms, collars, risbands, etc., may be wet in the Starch and wrung, or squeezed out as dry as you can, and rolled up for an hour or two, before ironing. The plan of sprinkling Starched shirt bosoms removes much of their stiffness, and Gloss; and the idea of hanging out shirts to dry before Starching, is just so much extra labor. Whatever needs Starching at all, do it before drying; and what is to be extra nice wet them with Starch water, as above, in place of sprinkling, or wetting-down, as it is called.

GLUE FOR READY USE—for Furniture, Dishes, Belting, etc.—For families which are constantly needing Glue to remedy the carelessness of servants, and the awkwardness of children, shown in the breaking of chairs, and other articles of Furniture, Dishes, etc., the following liquid Glue will give great satisfaction:

Take a stout bottle capable of holding $\frac{1}{2}$ pt., and put into it isinglass, broken fine, 2 ozs.; then put in good whiskey enough to cover it all. Cork up and set by for a few days, when it will be Ready for Use—in Summer, without heat—in Winter by warming in hot water. It will keep any length of time, if kept corked. Tallow the cork well; or, what is better, after it is dissolved, is to tie a piece of thin rubber over the mouth of the bottle, or dip a thin piece of muslin into melted bees-wax and use in place of the rubber; and if set by in a tin box having a cover so much the better.

To mend Dishes, set them in the stove oven, or on the drum until they are as warm as you can handle them, then apply to both edges and hold together until it "sets," which will be but a few moments, then put by until thoroughly dry, before using—for split-table leaves, they must be held together by clamps, until dry; chair rounds, when Glued and re-placed will generally hold; if not they must be kept in place until dry; for leather Belts, put a weight upon them.

Good common Glue treated in the same way, does well for wood; but as the isinglass answers for *all* purposes, it is decidedly preferable.

2. Liquid Glue.—Merchant Kelly; of Bentonville, Ind., reports as follows to the *Scientific American*.

"MESSRS. EDITORS,—The following is a method by which I have prepared Liquid Glue, and have found it very convenient:—

"Take the Glue in any quantity desired, and dissolve it in as small a portion of boiling water as possible; it will then be found too thick for use. While it is still hot, take the Glue pot from the fire, and thin the Glue to the proper consistency with alcohol; then put it in a bottle, the mouth of which must be covered with India rubber, or other material impervious to the air.

"Liquid Glue made in this manner, and placed in bottles, may be kept Ready for Use for several years. I have some Glue, which I now use, that was thus prepared *six years* ago, and is now as good as when made. It only requires to be slightly warmed, for application, during cold weather."

The alcohol prevents putrefaction and freezing, the same as the whiskey does in No. 1, although the isinglass has not the same tendency to putrefaction that the Glue has.

3. Glue, Water-Proof.—Take of gum sandarac and mastic, and white turpentine, of each, 1 oz.; alcohol, 1 pt. Dissolve the gums in the alcohol, using heat if necessary, then add the turpentine; and have ready a very thick Glue, same quantity—1 pt—in which there has been added $\frac{1}{2}$ an oz., of isinglass, dissolved. Make the alcoholic solution boiling hot, by having it in a pan, inside of a kettle, or another pan of water; then *slowly* add the hot Glue, stirring constantly until thoroughly mixed. Strain through cloth. It is to be applied hot. It dries quickly, and becomes very hard; and surfaces of wood united with it *do not separtate when immersed in water*.—*Harpers Bazar*.

GLYCERINE—How Obtained, Its Uses.—Glycerine exists in oil, lard, etc., and is obtained in the process of making soap, being left behind in what is called the "mother liquid." It is sweet to the taste and dissolves in water, and will dissolve quinine; it is free from acid, allays irritation, and does not ferment. It has been used as a substitute for cod liver oil, is valuable for chapped hands, and sunburnt faces, and for irritation experienced by some after shaving; in perfumes for the hair, etc., etc., and is growing in popularity, as a knowl-

edge of its various uses are being extended by experience; and as it is now a commercial article, and easily obtained, there is one application which ought to become generally known. This is the property it possesses of dissolving out the odorous principle of flowers. The leaves of roses, hyacinth, jessamine, geranium, etc., are to be put into a ground stoppered bottle, and Glycerine left in contact with them for 3, or 4 weeks. All of the perfume will be extracted, and as the Glycerine will mix readily with water, a scented wash can be prepared for the hands, as well as an extract made for use in the preparation of Perfumery. If the Glycerine be left in contact with red pepper balls, it will extract a principle very strengthening to the hair, and less dangerous than the preparations of cantharides now often used.

1. GRAPE CULTURE.—Notwithstanding that many foreign Grape vines have been introduced into the United States, supposing that they would flourish wherever peaches would do well, yet, the probability is that wherever the Isabella and Catawba, which are "improved natives," have been introduced, no other Grape will supercede them in their proper latitude, in the range of the Southern shore of Lake Erie, and South of that, but North of that, except perhaps on the islands of that lake, the Concord and Hartford, are more reliable because earlier. The vinyard must be well tended; and well drained, and at distances from the cities where bones in abundance can not be obtained, swamp muck, exposed to a Winter's frosts, makes the best manure, unless well rotted stable manure, is on hand, and is thoroughly mixed with good loomy soil, as it is not expected that night-soil will be made use of to any extent.

Some train their vines on wires fastened to posts 20 to 25 feet apart, and some train over common trellises and allow the vines to pass over and down the opposite side and take root again at the top. No vine should be permitted to grow only one shoot the first year.

The ground should be kept loose, free of weeds, and notwithstanding that manure should be well mixed with the soil to a considerable depth in setting out, the surface should be manured every season.

It is claimed by some, that even "barrens" may be turned into fruitful vinyards—money and labor will do many things. Even in the vicinity of New York city, from 1,500 to 2,000 gal's., of wine have been made from an acre—using 1 lb of sugar,—nothing else—to each gallon of juice. Five gals. of this would make 1 gal., of brandy. The following:

2. Hints on Grape Culture, communicated to the *American Agriculturist*, by "K-r-stone," of Erie Co., Pa., will corroborate some of the above points, and also give some important additional thoughts. The writer says:

As to soil and site I shall say but little, only to have them high and dry; both, if possible—the latter, at all events. I have found that Grapes will bear anything but too much water; in fact, I never yet saw them suffer for want of it, when intelligently cared for, or wholly neglected, but have, in one, or two instances, known of vines being injured by extreme Summer pruning, and the damages charged to the drought. At this age of Grape Culture I do not think it necessary to waste words on this part of the subject. A comparison of the extreme wet season of 1869 with the extreme dry one of 1870 leaves no chance for argument. Such extremes are seldom experienced, but, as teachers, are worthy of our closest scrutiny.

As to varieties I would be more explicit. Having had above thirty varieties under cultivation for several years, I can speak positively and favorably of only three in addition to the old standards—Isabella, Catawba, and Clinton. These are Concord, Hartford, and Ives. Some others have done well in favorable seasons, but these have *invariably* done well. Have stood the test of 20° below zero in Winter, and 94° above in Summer; the deluging rains of 1869, and the drought of 1870; and have paid their way handsomely every season since the first bearing year. It is true the quality is not *best*, but so long as nine out of ten consumers judge by *sight* rather than *taste*, these varieties will sell at paying prices. They can be grown at half the cost of Delawares and Ionas, while they now command nearly as much per pound in market as the latter. We are told that this state of things will not always exist; but my convictions are that no planter will live long enough to regret his choice if he plant acres of these varieties. I know the market is sometimes over-stocked with Grapes of these varieties in *bad condition*, but it is *because* of their bad condition, and not from a lack of excellence in the fruit. I have tested this many times by putting such fruit on the market in good condition, and realizing more than market quotations, with a ready sale.

I would not discourage the planting of new varieties. In fact "test vines" of all of them are desirable; but the certain, regular income from reliable varieties is what growers want, and must have. When these test vines prove themselves worthy, adopt them if a grain ahead of the old ones, but not until then.

What few hints I have given, if well heeded, would have saved me some money, besides a good deal of vexation, and I give them to save others the same ordeal.

3. Grape Grafting.—We have met with many experienced persons who have never seen the Grape vine Grafted. The process is so easy, that thousands who are anxious to possess the new varieties, should especially take care of their old roots and insert scions of the new. No clay, or covering of the Grafted part is necessary, beyond the natural soil, below which the Graft is to be inserted. Saw off your stock and put in your scion which has 2, or 3 buds upon it, wedge-fashioned, as in the "cleft-Grafting" of fruit trees, and then cover up a few inches, leaving 1, or 2 buds above the ground. Where the stock is very large, and inconvenient to split, a gimlet hole, so made as to bring the two barks together answers. The sprouts of the old stock, as they start up, to rob the Graft, must be pulled off. Grafts often bear some fine clusters the first season of growth, and many more the second. In this way the old stock of wild Grapes, removed from the woods, are very useful, with due care. We have lately seen an old Catawba vine that was wanted for shade 40 feet off, laid down for 1 year till it had rooted well, and then was Grafted with perfect success, and fruited the first year.—*Horticulturist*.

The above knowledge will enable any person to obtain a vine from the earliest and choicest varieties in their neighborhood, when they cannot obtain a root.

4. Grape Jelly.—Take as many Grapes as you design to use, and put them into a jar and place it in an oven, or on top of the drum, to draw out the juice, then squeeze them through a cloth, and to each pt. add 1 lb. of loaf sugar if a clear article is desired, if not, use brown sugar, and boil it slowly about 1 hour; after which, pour into the bowls,

tumblers, or Jell dishes recently introduced, in which it is to be kept, and next day cover the top $\frac{1}{2}$ inch thick, with powdered white sugar; then, if in the Jell jars, screw on the top; and if to be put up in bowls, or tumblers cover with paper for preservation. It will make a very nice article if loaf sugar is used.

5. Grape Juice, or Wine from Tame, and from Wild Grapes.—Under the above head, D. L., in answer to an inquiry through the *Scientific American* says:

"That if the Grape Juice be from cultivated, or Tame varieties of Grapes, the way to make good Wine out of it is to let it ferment without any admixture of any kind, and to draw it off clear in the Spring, when it will be a pure and wholesome Wine, ready for use, or the market. If the Juice be from Wild Grapes, and, as is usual in that case, *very astringent and deficient in sugar*, let M. T. M. add to it equal parts of water, and to each gal. of the mixture 2, or 3 lbs. of white sugar. Both formulas make good Wine, but the former pleases better the European and the latter the American taste."

Of course, if 1 lb. of sugar is added to a gal. of Grape Juice, the Wine will contain that much more body, or strength, and would certainly suit the taste of many, better than without it; and in the case of the Wine from Wild Grapes, I should not add more than 2 qts. of water to 1 gal. of the Juice, then add 2 lbs. of sugar to 1 gal. of the mixture, it will then be very nice.

6. Grapes, Successfully Kept Until Spring.—Grapes have been Kept Successfully until March, by picking them on a bright clear day, when *partly* ripe, and the bunches cleared of all imperfect berries; then placed in stone jars holding 1 to 2 gals. only, and placing these jars in a trench in the ground, so deep that the top of the jars shall be 10 to 12 inches below the surface, placing boards over them and then covering up with dirt—of course this could be done only in a dry soil, and by sufficient covering to protect them from frosts.

7. Ripe Grapes and other fruits are also being successfully kept, now, in cold cellars, or rooms purposely built, so that the temperature can be kept, by the use of ice, just above the freezing point. The secret of No. 6, is that the Grapes are not to be quite ripe when picked for putting away.

GRAFTING WAX.—To work well early in the Grafting season, while the weather is still cool, the Wax must be a little softer, to spread nicely, than later, as the weather becomes warmer.

1. Then for cool weather, take rosin, 4 lbs.; bees-wax, 1 lb.; and linseed-oil, 1 pt. Melt all together and pour into cold water; and as soon as it is sufficiently cool to be handled, grease the hands a little and begin to work it, by pulling out, doubling over, and pulling out again, etc. The more it is worked, the easier it will spread, and the nicer it will be.

2. For warm weather, add 1 lb. more of rosin to the Wax mixture, above, and work otherwise the same as No. 1.

This plan has been successfully followed by a neighbor of mine for several years. He has Grafted for me twice, hence, I know his plan may be relied upon.

3. The Old plan was to use rosin, 1 lb.; bees-Wax, $\frac{1}{2}$ lb.; and tallow, $\frac{1}{2}$ lb.; otherwise worked as the above. In trimming trees, when it becomes necessary to cut off very large limbs, the wound, or stub

should be covered with the Grafting Wax. The over-growth will be quicker.

GRASS, OR MEADOWLAND—Successful Management.

—In England, the farmers have to pay a rent, that in this country would make the farmer open his eyes, with astonishment; hence, they must so Manage it as to obtain the largest possible production. To do this they drain their Grass Lands 5 ft. deep, 66 ft. apart, unless the soil is very heavy, when 33 ft. is the distance. Twenty loads of fine compost per acre is spread each year, and the Grass harrowed each Spring with a heavy iron harrow, which spreads the manure and opens up the Grass. It is then rolled with a heavy roller once in each direction across the field. Treated thus, a farmer is enabled to pay an annual rental of \$20 to \$50 per acre.

If this Management is good in England, would it not prove equally valuable in the United States, especially so in all of the older States, where the Meadows have been long seeded down, and certainly need enriching with manure, as well as loosening about the roots. "A word to the wise is sufficient."

GREASE, OR PAINT SPOTS, TO REMOVE FROM CLOTHING.—Grease, or Paint is quite often got upon a nice article of Clothing; and it then becomes quite an important point to remove it without injury to the texture of the cloth, and without change of color. In cases where it has but just been done, simple *benzine* is all sufficient; but if at all dry:

1. Take alcohol, $\frac{1}{2}$ pt.; sulphuric ether, 2 ozs.; pure carbonate of potash—salts of tartar, 10 grs.; soft water, 2 ozs.; oil of bergamot $\frac{1}{2}$ oz.

Dissolve the carbonate in the water, and put the oil of bergamot in the alcohol, and then mix all together and cork for use. The bergamot is only for flavor; it will be as effective without it. Apply to the Spots with a bit of sponge, wetting thoroughly, and if the Paint is at all dry, or if the Grease has been on sometime, so as to have become dirty, apply several times to soak up and soften the glazed surface, and the dirt will crumble off and brush away without trouble.

2 For common Clothing, water and alcohol, of each, 4 ozs.; and aqua ammonia, 1 oz. mixed, will do as well, and be less expensive; but for fine Clothing, No. 1, or benzine, or BENZOLE, which see, is preferable.

3. In case any Clothing changes color by coming in contact with an acid, an alkali of sufficient strength will neutralize the acid and restore the color—the same holds good of an alkali, an acid will neutralize the alkali, and restore the color. I had a very satisfactory experience of this fact only a short time since. I stooped down near to a kettle of alkaline *washing fluid*, nearer than I supposed, when the corner of a black dress-coat dipped into the fluid, which being strong, immediately made it a *nice brown*, but the quick application of good cider vinegar neutralized the alkali, and restored the color, in a moment.

GUM, OR PASTE FOR OFFICE USE.—Soft water, 3 ozs.; gum Arabic, 1 oz.; glycerine, $\frac{1}{2}$ oz. Dissolve by heat, and bottle for use. The glycerine prevents it from spoiling and does not injure its sticking qualities.

1. **GUN BARRELS—Improved Process for Browning.**—The latest and most Improved Process of Browning Gun Barrels, is by

the use of the tinct. of iodine, 1 oz.; soft water, $\frac{1}{2}$ oz. Mix, and apply with a clean rag and allow it to stand 6 hours, then use the stiff wire brush upon the Barrel in the usual way, and rub it over with some bees-wax dissolved in turpentine and the work is complete. With the old fluids used, 24 to 36 hours were needed.

2. Varnish for Gun Barrels, Stocks, etc.—Alcohol, 1 pt.; shellac, 1 oz.; dragon's blood, 2 drs. Dissolve.

This Varnish is also used for Stocks of Guns and makes a reddish brown stain.

It would be found a good Varnish for any light colored woods, requiring such a shade of color. See also, BROWNING IRON AND STEEL.

3. Another.—Another plan of Browning Gun Barrels, or other articles of iron, or steel, is to dissolve in 4 parts of water, 2 parts of crystallized chloride of iron, 2 parts of chloride of antimony and 1 part of gallic acid, and apply the solution with a sponge, or cloth to the article, and dry it in the air. Repeat this any number of times, according to the depth of color which it is desired to produce. Wash with water and dry, and finally rub the articles over with boiled linseed oil. The metal thus receives a Brown Tint and resists moisture. The chloride of antimony should be as little acid as possible.

HEADACHE.—Headache is a very frequent and annoying difficulty to persons not enjoying natural good health.

Cause.—Headache may arise by a determination, or rush of blood to the head, or to some other organ closely allied to it by sympathy, as by a deranged condition of the secretions, or by the deficient secretions, more particularly of the skin, or kidneys.

Symptoms.—In case of Headache from a rush of blood to the Head, the pain will be intense and throbbing, flushed face, heat etc.; but from ordinary causes, there will be no especial Head Symptoms, except the pain, more, or less severe, according to the general derangement which causes the difficulty.

Treatment.—If the Headache arises from a determination of blood to the Head, known by the throbbing pain, and flushed face, large mustard plasters to the feet, and strong ginger tea taken freely, and as hot as it can be borne, covering warm, in bed, will generally give immediate relief. But, if 1, or 2 good drinks of the ginger tea, with the other Treatment does not give relief, put 10 to 15 drops of the tinct. of gelsiminum into a drink of the tea, which will still further aid in quieting down the agitation of the blood, and thereby relieving the pain—if not, the gelsiminum, in half the quantity, may be repeated once, or twice, after 2, or 3 hours have elapsed, between the doses. And after the attack has subsided, a course of bathing, to cleanse the skin, followed by gentle cathartics, diuretics, and tonics, to improve the general health, will greatly tend to work such a change in the circulation, and secretions that but little further difficulty will be experienced—whatever will correct an *over* action, or a *deficient* action, in any of the organs, upon general principles, will naturally aid, or entirely cure these Head difficulties. See GENERAL DEBILITY.

2. In cases arising from a *dyspeptic*, or otherwise deranged condition of the stomach, as by eating a *second*, or *late* supper, with, or without a free use of stimulating drinks, let the feet be at once put into hot water in which flour of mustard has been freely stirred, say a table-spoonful at least, giving also freely of pennyroyal, or sage tea, which may be expected to relieve the stomach by vomiting, after

which apply a mustard plaster to the stomach and also to the back of the neck, which will quiet both the stomach and Head difficulties. And after a day, or two, let the cathartic, *diuretic*, and general *tonic* Treatment, as above directed, be entered upon, to improve the general health, avoiding further irregularities if you desire to avoid further disease.

3. Dr. Beach, in his "Family Practice," gives an account of the cure of a case of many years standing, "which had resisted all remedies, and about every three months occasioned retching, or vomiting of three days' continuance by taking a table-spoonful, daily, of his compound tinct. of Senna." See CATHARTIC TINCTURE, for children and dyspeptics.

HEART-BURN AND WATERBRASH.—Notwithstanding that the first named of these difficulties is called *Heart-burn*, yet, it is particularly a disease of the stomach; and notwithstanding also that these difficulties are generally treated as *two* diseases, they are so closely related to each other as to require no separation.

Cause.—A slight inflammation of the stomach, as well as food in the stomach which does not easily digest, may cause a heat, or *burning* sensation in this organ, creating gas, or "wind in the stomach," as it is called, which often causes belchings of gas, and sometimes *water*, when it is called "water brash," which gives the name, and consequently the *symptoms* of the disease, so that further symptoms need not be mentioned.

Treatment.—If the complaint is not of long standing, as there is generally more, or less acidity of the stomach present, a little weak lye of a suitable strength to be drank, taken occasionally, may arrest the difficulty by correcting the acidity and toning up the coats of the stomach. Or the carbonate of magnesia, 1 to 2 tea-spoonful in a little spearmint tea, may prove sufficient for the emergency, some however think that calcined magnesia is better than the carbonate; but, if of long standing, the cathartic tincture, as mentioned under the head of Headache, may be used, combining with that, the tinct. of the balsam of Tolu, 1 oz. to the cathartic tinct. 8 ozs.; the *dose* being the same as recommended for its cathartic action. If this course should fail after a few week's trial, the tonic cathartic may be alternated with it, with its accompanying tonic stimulant, as found under the head of dyspepsia, and but very few cases will fail of receiving permanent benefit, if not an entire cure.

HERNIA, OR RUPTURE—TREATMENT, AND TRUSSES, TO MAKE.—Hernia, or Rupture is understood to be a breaking of some portion of the inner walls of the abdomen, which permits some part of the intestines, or superfluous fat to project against the more external parts, by which an enlargement, or lump is produced, which, when the intestine protrudes, causes more, or less pain and inconvenience, and greatly endangering the life of the person by becoming *strangulated*, i. e., by the passing down of so large a portion of the intestines, through the inner opening, that it cannot be readily returned, and the pressure and constriction prevents a free flow of the blood in the protruding parts, when mortification soon takes place, and the death of the patient is certain.

To prevent this danger, as soon as it is discovered that a person is *ruptured*, let gentle pressure be made with the fingers, to return the intestine; and keep it up by the pressure of the hand until you can

get to where a bandage can be applied, placing folded cloths under the bandage to keep it back until you can get a Truss, which will keep it in place. These are now kept in large quantities and varieties by most druggists, out of which a cheap one may be procured to answer the purpose until a permanent and good one may be made, or purchased. For as a general thing, especially for men who have lifting and straining work to perform, but little satisfaction will be experienced by these *sale Trusses*.

2, In case that the intestines come down to such an extent that they cannot be returned while in a standing position, lie down upon the back, raising the hips a few inches, then with the thumb and fingers compress around the neck (close to the body) of the Hernia, by which means it is hoped to make the part smaller than the orifice, and thus, little by little, pass it all back; but if this cannot be done, and you are away from the house, get home, or to the nearest house as soon as possible, and have cloths wrung out of hot water and applied for 20 to 30 minutes, then attempt again the same process of returning the protrusion. If this fails for an hour, apply *wet* and *warm* tobacco leaves over the part, which will relax the system and will allow of its return if it is among the possibilities. See LOCK-JAW, for the Treatment, in case too great a prostration is produced. If this fails, there is no other remedy except to call a physician and have him cut down to the Hernia and *enlarge* the opening. If this is done before mortification takes place, life may be saved; and there is a reported case, or two, where mortified intestine has been taken out, and the sound and healthy parts sewed together, and the patient recovered, but I should have but very little, if any, hopes of such a case.

I have worn a *double* Truss now about 20 years. For the first 10, or 15 years I had very much difficulty in getting a Truss that would set easy and keep the intestines in place; but in 1867, I think, while in Boston, Mass., I got one of "Marshe's Patent," which was very neatly and very ingeniously made, and it has kept me in peace and quietness ever since, now, *over five years*. They are expensive, \$25 for single and \$40 for double,—*ten per cent discount to physicians*. I purchased at that time, of Drs. Bonsall & Lotz, No. 33 Tremont st., and Dr. Marsh was then of, or at, the Astor House, New York. I know not that either of these men are at the same places now, but as the Truss has given me such entire satisfaction, I feel in duty bound to help others to look up the same thing if they desire to do so.

3. There is also, in this city, Ann Arbor, Mich., a neighbor of mine, J. W. Lawson, a very ingenious blacksmith, who has had considerable experience and success in making and fitting Trusses, to both men and women, so much so that I have deemed it best to give an illustration of his plan, because there is quite a perceptible difference between \$10 and \$25 for a single Truss; and on his plan also, the second pad, for a *double* Truss may be applied for only \$2, or \$3 extra.

I think the *illustration* and *explanation* will enable any good blacksmith to make and fit Mr. Lawson's Truss to those in his own neighborhood who may need them.

Fig. 24, represents Mr. Lawson's Truss, ready to be applied.

Fig. 25 represents the iron part of the pad, before it is covered with leather; also a wrench to handle the thumb-screw, to set it just at the right pitch, upon the round part of the spring, so that the pressure may be only sufficient to prevent the intestines from protruding,

or coming down. The middle piece in Fig. 25, represents a kind of wrench with which the flat part of the spring may be easily bent to the shape of the body. Mr. Lawson uses two of them, by which means he makes the greater speed,

FIG. 24.



LAWSON'S TRUSS.

FIG. 25.



PAD, WRENCH AND BENDING TOOL.

Three-eighth round, bar-steel may be obtained, and flatten such part as goes around the body; then cover with suitable leather, after having shaped it to the body, and tallow it to prevent its rusting. The other end, it will be seen, is also flattened to allow the riveting to it, of a buckle-strap to hold it in place. The pad is also covered with leather and stuffed a little upon the inside, with cotton batting. The little wrench, for setting the thumb-screw, may be made short, to allow of its being carried in the pocket, to ease, or tighten the *pad*, according to the pressure that must be given it in case any heavy lifting, or straining work must be done,

4. Irritation from Trusses, To Prevent.—Nearly all persons who are compelled to wear Trusses, are also compelled to bear so heavy a pressure, from the spring to prevent the protrusion of the intestine, that in warm weather especially, the skin becomes so inflamed and irritable, and such a degree of heat is felt *under the pad*, that it becomes almost unendurable.

For some years now, I have been in the habit of keeping a small tin box, on the stand, or window, by the head of my bed, filled with mutton tallow. On retiring, at night, I remove my Trusses, and apply a little of the tallow, which soothes the Irritation; and in the morning before putting on the Truss I apply a little more, which almost entirely relieves this difficulty. I think that any one trying it will seldom abandon its use. The information of the benefit of this application was given to me by a German barber, of this city, who, himself, and his father before him were compelled to wear Trusses. It is indeed valuable for this purpose, and also to apply in all chafings, etc., from walking, or working.

HIVES.—This disease manifests itself in the form of an eruption, or red blotches upon the surface, or skin of children, mostly.

Cause.—Obstruction of the circulation, and the absorption into the blood of some poisonous vapors in the atmosphere, similar to that of the more simple fevers are the undoubted Cause of the disease.

Symptoms.—Large red patches with a somewhat swollen center more white than the rest, with an almost intolerable itching, something like the irritation from nettles, make their appearance, and have also given another name to the disease—"nettle rash." This rash, or blotches may subside after a few hours, then re-appear for a

day, or two, causing considerable sickness of the little patient unless properly attended to.

Treatment.—Bathe the whole surface, but more thoroughly the affected parts, with spirits of camphor and soft water, equal parts of each, and give a dose of the cathartic tincture, to operate tolerably free; and also a tea of saffron and spearmint, every hour, or two to keep the disease to the surface, and but little danger need be feared. I am partial to the spearmint plant, in preference to the peppermint, because of its greater *diuretic* properties.

HORSES, MULES, AND CATTLE—A Synopsis, or General View of their Diseases, with their Cause, Symptoms, and Treatment.—To save a very frequent repetition of the prescriptions, or *medicines* used in the Treatment of Horses, Mules, and Cattle, I have deemed it best to *first* give a description of their Diseases, and in the Treatment, to refer to Medicines by their *number*, thereby saving much space in the Book, which is clear gain to the purchaser. The Medicines, by their *numbers*, will be found immediately following the Diseases.

First, then I shall speak of *internal* Diseases, which include those of the general system, as Fevers, Diseases of the *lungs*, *bowels*, *stomach*, *liver*, *kidneys*, *bladder*, etc.

1. Fever—Simple, or Symptomatic (general inflammation).

Cause.—Over-exertion, high feeding, cold, etc. **Symptoms** in Horses and Mules. Pulse quick, mouth hot, eyes more or less inflamed, eats but little, and bowels costive. **Symptoms** in Cattle, same as in Horses, with a dull eye, rough coat, and horns hot.

Treatment in Horses and Mules.—In former times it was customary to bleed in nearly all cases of Fever, or in general and local inflammations of any considerable extent; but, latterly, and very properly, a febrifuge is considered much the better way with Horses, or Cattle, as well as with *persons*. If the pulse, is very high (40 to 45 is the general range), give No. 5, in place of bleeding, unless bleeding is especially directed. Then, give No. 1, and follow with No. 3, as there directed, if necessary. Keep the Horse warm and quiet, and follow the cathartic, No. 1, with the fever ball, No. 9, and continue No. 5 if need be.

Treatment in Cattle.—Give No. 2, until an operation is obtained, in all cases, then follow with No. 15, and repeat, if needed, and use No. 5, if the pulse is high.

2. Common Cold, Influenza, Distemper, or Catarrh—Cause.

—Sudden changes in the weather, chill from drinking cold water after exercise, standing too long without proper covering, etc. **Symptoms** in Horses (and here permit me to say that the **Symptoms** and Treatment will be the same for Mules as for Horses. Remembering this I need not repeat the word Mules every time in connection with Diseases, or Treatment of Horses). Eyes dull, cough, restlessness, and soon after running from the nostrils and eyes, kernels under the jaws, etc., and if a rattling sound in breathing, it indicates the approach of fever. **Symptoms** in Cattle, cough, horns and ears hot, rough coat, nose dry, etc.

Treatment in Horses.—Give daily, No. 6, bran-mashes, and, if weak, No. 7. And if, as in some cases the head, or nose, is completely stopped up, causing a noise in breathing, called "roaring," use the

cephalic, or snuff powders, No. 18, according to the directions there given. For very bad cases, see COLDS under the head of distemper.

Treatment of Cattle.—Give the cleansing drink, No. 2, and follow with the flaxseed tea, No. 15, as needed.

3. Over-Exertion, or Nervous Exhaustion.—**Cause.**—Plethory (excess of blood), too great labor, or exertion in running, etc.—**Symptoms** in horses. Shivering pulse and breathing quick, and restlessness. **Symptoms** in Cattle, quick breathing, clammy sweats, etc.

Treatment in Horses.—Clothe warm and give the pectoral powders, No. 6 $\frac{1}{2}$ keeping quiet; and if the pulse is too high, give the acornite, No. 5. And if the breathing is very laborious, or hard give also the drink, or draught for congestion of the lungs, No. 24.

Treatment in Cattle.—Give the cleansing drink, No. 2, and its accompanying Treatment, and keep the beast warm and quiet,

4. Inflammation of the Lungs, or Pleura.—**Cause.**—Cold, or whatever checks perspiration, by long standing after driving, or by drinking cold water after driving, violent driving, over-feeding, or low-feeding, kicks, or blows upon the side, etc. **Symptoms** in Horses. The Symptoms in *Inflammation of the Lungs*, and of *Pleurisy* are much the same, except that in *Pleurisy* the Horse shows greater restlessness, and works more with his flanks, and belly more contracted. Pulse quick, short cough, never lies down, but may attempt it, if he does however, he is up in a moment, while in *gripes*, or *colic*, he will lie down and roll about, turn up his eyes, and stretch out his limbs, and have cold and clammy sweats, etc., which enables one to distinguish between them, as there is also fever, in these cases, instead of cold sweats. In Inflammation of the Lungs, there will be a ropy and slimy matter drool from the mouth, and a yellow, or reddish matter from the nostrils, sticking to them also like glue; but it does not matter much which disease begins the difficulty it generally complicates both, and brings about congestion of, (or a rush of blood to) the Lungs. It is often brought on by the Horse being out in the cold, then brought into a close warm stable, causing this rush of blood to the Lungs while the heart has not power to carry the blood through the Lungs—the heart's action is overpowered—and the blood remains in the Lungs; and thickens like molasses, the Horse begins to blow and heave violently, as if laboring under violent Inflammation of the Lungs, which, at first, is not the case, there is actually an absence of Inflammatory action. The treatment will be to overcome the debility of the heart, and to render the blood, there, more fluid, otherwise Inflammation will soon be commenced. **Symptoms** in Cattle, hurried breathing, cough, and often moaning, and restlessness.

Treatment in Horses.—Give No. 24, and if need be, use the sweating, or blistering liniment No. 16, and No. 5, if of long standing and high pulse, according to the directions, until the pulse is brought down to nearly a natural condition.

Treatment in Cattle.—Use the clyster,* No. 25, and No. 26, and seaton the dewlap.

In Cattle, especially, use the iodine, as explained in No. 26.

*In giving a Clyster, or more properly, an Injection, to a Horse, or to Cattle, it is necessary to have a person with a small hand, well oiled, then wet with some of the Injection, passed into the rectum (called "back-raking," and take out the hardened feces (dung), the whole length of the rectum), and what can be reached handily, down after you come to where the rectum, or large intestine falls off, down into the bowels, to make room to receive 2, or 3 qts. as may be needed; then have a tube made from reed-fishing-

5. Chronic Cough, Asthma, or Heaves.—Cause.—Neglected cold, voracious feeding, hard work, or injudicious treatment of colds, etc.; and, if it be permitted to become settled, or “fixed,” will end in Asthma, or Heaves. **Symptoms in Horses.**—Dry cough, no fever, jerking respiration. **Symptoms in Cattle.**—Frequent cough—short and dry.

Treatment in Horses.—Give No. 7, twice daily, and occasionally No. 1.

Treatment in Cattle.—Give No. 7, twice daily, as for Horses, only if the Cow will not eat the mash containing the powders, they may be drenched with it, in water, or flaxseed tea, No. 15.

6. Inflammation of the Stomach, Inflammatory Colic, or Gripes.—Cause.—Poisons, over eating, indigestion, and sometimes from neglect of common, or wind colic.

Symptoms in Horses.—Pulse slow, great drowsiness, fever and costiveness. **Symptoms in Cattle.**—Voracious appetite, stupor, costive.

Treatment in Horses.—If the Inflammation of the Stomach has arisen from poison, by intention, (as is occasionally the case to remove a valuable racer, or stallion, but little can be done, as, generally it is not known for sometime, and even if it was, there will not be much chance to remove it, or change it sufficiently quick to do any good); but, if arising from indigestion, the accumulating food must be removed by clysters, No. 25, and aconite, No. 5, if the pulse was high. The flaxseed tea, No. 15, may also be given by the mouth as often as by injection—cooking one pt. in 4 qts. of water; and combine with what is given by the mouth, the compound tincture, No. 6, as there directed. This relieves the pain, and the injections loosen the bowels without the irritation which would be caused in giving physic—the bowels however, must be opened by faithful attention to the flaxseed process.

Treatment in Cattle.—Bleed, give No. 2, and clyster, No. 25, and keep from food. In Cattle, however, this is not so common; but in calves, quite common; and in this case, a table-spoonful of the compound tincture, No. 6, may be given for a dose, and repeat every 2 hours; and after the pain is relieved, give the calf a dose of castor-oil, two large table-spoonfuls will generally operate in about 12 hours. It generally arises in calves, when first turned out to grass, and consequently at this time, an eye should be kept over them to prevent this difficulty from getting the start of you. Change of food causes it.

7. Inflammation of the Bowels.—Cause.—Cold, indigestible food, strong physic, or over-stimulating medicines for colic, etc., and may arise from castration. **Symptoms in Horses.**—Fever, belly tense (like a drum head) and tender to the touch, and unremitting pain, becoming very restless, and as the disease advances, all the Symptoms becoming worse, or more aggravated. **Symptoms in Cattle.**—Great restlessness and constipation.

rod, or a sweet-elder tube, from 10 to 14 inches long, with a good clear hole through it with a large beef's bladder tied, and securely fastened by a small tack, or two, to help make the attachment by winding with twine, etc., the other end of the tube being carefully rounded off, and the whole tube well oiled, and entered to the falling off, then by twisting the bladder, the Injection is carried where it will do good; and when all is emptied, remove the tube, having a wisp, or ball of straw, ready, the size of your fist, and place it upon the orifice (anus) and bring down the tail and hold it there for 10 to 15 minutes. The ordinary plan of using the short syringe, as used for persons, without cleansing the rectum is time and expense that amounts to nothing—does no good.

Treatment in Horses.—Give the compound tincture, or anodyne draught, No. 6, in 3 doses as directed, and if a bad case, use the sweating, or blistering liniment, No. 16, on the soft part of the belly, and if the blister will run, there will be but little danger; in the meantime let the rectum be back-raked (cleaned out) and a clyster, or injection given, No. 25, with the flaxseed tea, No. 15, as directed for inflammation of the stomach.

Treatment in Cattle.—Give clysters, No. 25, with a pt. of linseed-oil in each, given warm always.

8. Colic and Bots in Horses, and Hoven, or Blown in Cattle.

—**Cause.**—Windy, or flatulent Colic in Horses, is often produced by eating greedily of clover, or other grasses, new hay, new corn, drinking cold water, etc. **Symptoms** in Horses. Often lying down, and quickly rising again with a spring; strikes his belly with his hind feet, stamps with his fore feet, and refuses all kinds of food; and if the case is bad, his body is thrown convulsively into various shapes, eyes turned up and limbs stretched out as if dying, ears and feet hot, and cold, by turns, profuse and cold sweats; unsuccessfully tries to pass urine; and often turns his head towards the flanks, as though he wished to relieve the suffering of those parts; sometimes falling down suddenly, and rolls upon his back, which indicates a stoppage of urine; and the pain is often increased by an accumulation of dung which presses upon the distended bladder. Sometimes, in Colic, the Horse will become very quiet, and perhaps eat a mouthful of food, but in *inflammation of the bowels* the pain is constant, and belly hot, making an easy distinction. As to *Bots*, it is not believed by veterinary surgeons, now-a-days, that one case in a hundred called "Bots" is anything but severe flatulent, or wind-colic; and that no fears need ever be had that Bots will ever give pain to a Horse, to any extent, and that they never eat through a Horse's stomach until after death, and if ever found to have passed through before the death of the Horse, it was from a perforation, or hole made by disease, not by them, and that when they do occur, the proper course of Treatment is for Worms, which see. Dr. Wallington tells me of a case, where a healthy young Horse, in running away, with his mate, had a leg broken and was knocked in the head, at 8, or 9 o'clock in the morning, and on opening him, just after dinner, to prove that a Horse had no gall-bladder, the Bots had eaten a hole through his stomach as big as his fist; and, the owner said, if he had not known how he had died, he would have believed that Bots had killed him.

Bots appear very much like large maggots, or grubs, made up of circular rings, with sharp hook-like feet to hold to the intestine with

Symptoms of Hoove, Hoven, or "Blown," in Cattle, is first, a distension of the *rumen*, or first stomach commonly called the "paunch," the distension arising from eating freely of fresh clover, or fresh grass, or some food which ferments and produces such an amount of gas as to soon cause death unless relieved by puncture, *i. e.*, in bad cases. With this swelling, or distension of the rumen so as to fill, and distend the whole abdomen, there will be a laborious breathing in proportion to the swelling.

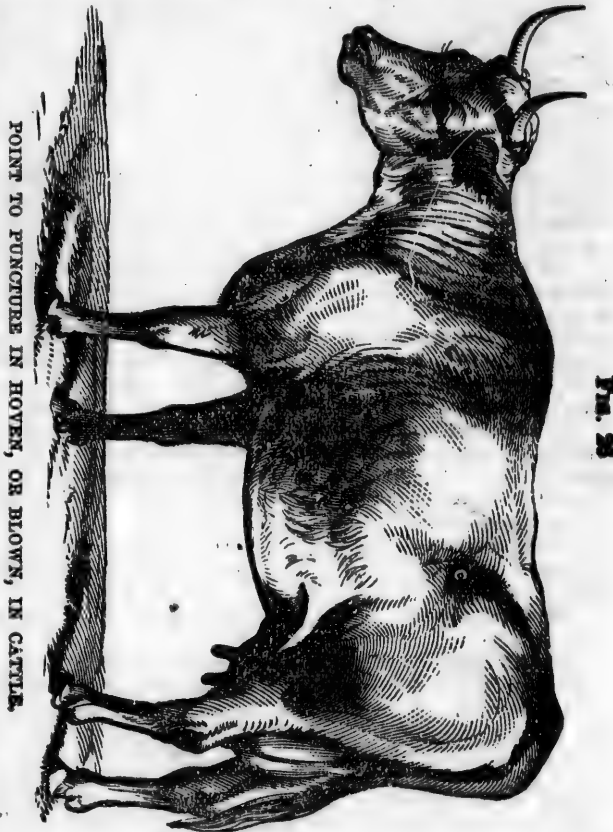
Treatment of Flatulent Colic in Horses.—The Treatment should commence with the first symptoms, by giving the compound tinct., No. 26, according to directions there given. The compound tinct. will be found very valuable in the Treatment of Colic, or other pain-

ful conditions of the Horse, or Cattle, as well as for persons. It is well, however, after the pain of Colic is relieved in Horses, to follow the Treatment with the condition powders, which are made as explained in the Treatment of constipation.

Treatment in Cattle.—Sometimes the driving of the animal about relieves a little, by causing a gulping up of some of the gas, or wind, but it never amounts to much only to give time to get some person present who can perform the operation of *puncture*, but if no one is near by, who can do it, the Cow or Ox, as the case may be, will almost certainly be lost. This must be done upon the *left side*, about *half way* between the haunch, or hip bone, and the *first short rib*, and at about the distance *down* from the *back*, so that a line-measure that would reach along the back from the *hip bone* to the *rib*, carried down from each of these points would *meet* at this half-way point down the side, being the lower point of a *triangle*, which carries you down below the kidneys, or spleen; as here the paunch, or rumen comes in to close contact with the inside of the abdomen.

The correct point for puncturing is represented, as nearly as can be in the following Illustration, FIG. 26, at C, where the knife is to be passed in, having ready a joint of elder, with the pith out and one end rounded off nicely so as to enter readily.

A piece of wool twine tied around the elder which should go into the rumen 4, or 5 inches, will keep it in place; other wise when the gas has considerably escaped, the paunch settles away from the surface, and there is danger of some of its contents escaping into the abdomen,



POINT TO PUNCTURE IN HOOVER, OR BLOWN, IN CATTLE.

FIG. 26

and afterwards causing the death of the animal. Keeping the elder in its position, until the gas has well escaped, will prevent this difficulty; then remove it and the wound will heal up without danger. What is better than the knife and elder-tube, is a *trochar*, used by medical men in puncturing for dropsy, and by *farriers* of any considerable note. The *trochar* consists of a tube, and cutting point within, which can be thrust forward, and which can be withdrawn after the puncture is made, leaving the silver tube in place, as long as needed. When punctured the gas and often some of the grass, or other solid food will escape through the hole with very considerable force, and sometimes continues so long that it becomes necessary to make an orifice sufficiently large to enter the hand and take out the contents of the stomach, and to put in warm salt water, and then sew up, first the stomach, then the outer orifice; but this need not be undertaken with any considerable hopes of success, only by a *farrier* who has practiced the operation, or at least is well posted upon the subject, and who is naturally capable of doing his work in a neat and handy manner—a genius. It has been ascertained, in England, more especially, or rather is practiced more there than in the United States, that the *chloride of lime* in two dr. doses, dissolved in 2 qts. of water and introduced into the stomach by means of a *stomach pump*, and repeated an hour afterwards if required, completely stops the fermentation of food, and restores, largely, the natural conditions of the rumen; but these pumps are expensive, and, I think but little used in this country.

After the animal has been relieved and the gas ceases to distend the paunch, or rumen, give the cleansing drink, No. 2, and after one, or two mornings have passed, the effects of the cleansing drink, or physic, having also passed off, take salts 1 lb. and divide into 4 doses and give one dose each morning until the whole is given, which will prevent an other attack of the disease, and help the animal to regain its natural health.

7. Diarrhea, or Scouring in Horses and Cattle.—Cause.—Change of diet, and sometimes over-feeding, hard work, debility, and occasionally by a sudden check of perspiration, or by taking cold, abuse of, or over doses of physic, and poisonous plants, especially with Cattle, Cause Diarrhea, or Scouring. Horses, or Mules, however, are not so liable to this disease as Cattle, but it may arise in them from an increased secretion of bile, or for want of proper absorption of the fluid part of the feces (dung).

Symptoms, in either case are too plain to need any particular description.

Treatment in Horses, will depend largely upon purgation, and cordial, or tonic drinks to give general tone to the digestive organs, and intestines. At first, however, give the compound tincture, No. 6, and after a couple of days if not much improved and apparently on the road to health, repeat it again; and if this does not cure within a reasonable time use the Diarrhea ball No. 28, and follow with the cordial, or tonic drink, No. 29, according to the directions given in connectic with them. If, this and the foregoing ball, does not materially benefit the case within 10 days, repeat the ball, and follow again with this drink, as before, taking especial care to avoid every kind of food that would have a tendency to keep up the Diarrhea; but if, in any case from some undiscovered cause, this Treatment should fail to give relief, and the disease runs on into dysentery, or

brazy, as sometimes called, there will be but little hopes of benefit; hence, nothing further need be said upon that disease; and the same remarks will hold good with Cattle—if much good is done, it must be done when it is only Diarrhea.

Treatment of Diarrhea, or Scouring in Cattle will also commence with gentle physic, No. 2, using only 1 lb. of salts with the full amount of ginger, and doubling the amount of ginger if any repetition of a smaller quantity of salts is given; then follow with the alkaline astringent, No. 30.

8. Constipation.—Cause—Dry food, too little water, want of proper exercise, etc. **Symptoms** in Horses, Mules and Cattle about alike—dung dry, hard, and coated with mucus. In Cattle the horns will be found hot, and the skin dry.

Treatment.—The Treatment like the Symptoms will be nearly similar in all cases, physic, No. 1 and 2, as the case may be, and clysters, No. 25, with bran-mashes, repeating the clysters 3, or 4 days in succession, keeping up the bran-mashes, and putting into them, once a day for three days at least, 1 table-spoonful of cream of tartar; and perhaps here, if in any case, the whole system being so considerably out of order it would be well to use the *condition powder*, which is made up, of the *pectoral, cough, and purifying powders* combined. In Cattle, give the physic, No. 2, and clysters, repeating as may be found necessary, using the flaxseed tea, No. 15, both with the physic and clysters. In some cases with Cattle the cleansing drink, or physic, No. 2, has had to be repeated until 8 lbs. of salts, says Youatt, have been given before an operation was brought about; but perseverance, and after care, will generally effect a cure. The flaxseed tea, for the stomach, in Cattle, can be put into the bran-mash.

9. Worms.—Worms of every kind are found in Horses and Mules; but it is very seldom that they trouble Cattle to any extent, not sufficiently so to call for Treatment. In Horses, aside from bots, which have already been spoken of, there are two others, the long round Worm very much resemble the common earth Worm, except that it is lighter in color, or white. This Worm infests the small intestines, and is from 6 to 10 inches long. The “pin,” or short Worm, is generally found in the large intestines, and are frequently voided, or passed with the dung. **Cause.**—The Cause of Worms is generally supposed to be from unwholesome food, bad water, etc. **Symptoms.**—A voracious appetite, passing Worms, and also the passing of a little mucus, which runs down and dries in a streak. When this is observed, as a general thing, it will be safe to treat for Worms:

Treatment.—Prepare the Horse with bran-mashes, absence of hay, etc., then give the Worm ball, and, oil, No. 12, and follow with the purge ball, No. 13, and afterwards, if needed, the stomach drink to aid digestion, No. 14, and repeat the course, after a proper interval, 8 to 12 days, if necessary, although in the Treatment of my own Horse, the past season, it was not necessary to repeat, nor did I give the stomach drink; but if much debility, the drink would be needed—8 months have now elapsed, and still no further appearance, or trouble from them.

10. Dropsy.—Dropsy may occur in Horses, or Cattle—**Cause**—Debility, injured, or poor food, pasturing on some low marshy lands have a tendency to Cause Dropsy and debility of the kidneys. **Symptoms.**—Soft swellings of the legs, and filling of the cavity of the

bowels, or chest. Then, if general, or particular debility, poor food, etc., have been the Cause, does it not also suggest the

Treatment?—Cleansing the system, generally. Tonics, diuretics, and good healthy food, will, do all that can be done; but if not successful before a large deposit of fluid has taken place into the abdomen of Cattle, it must be drawn off by puncture; but not as in hoven, upon the *upper left* side, but upon the *lower right* side, 6 to 8 inches, according to the size of the animal, forward of the udder. and just sufficiently to the right of the center to avoid hitting the milk vein and accompanying artery. If a *trochar* is used the tube can be left in until all the fluid is drawn off; and it is best not to close up the wound, it being small, to allow any still accumulating fluid to drain off for 2, or 3 days, as it will; in the mean time, the tonic, No. 4, and the diuretic Treatment as given under No. 11, for Cattle, will be having their chance to do what good they can; but, if the case has become chronic, or existed a considerable time, Youatt says: "The chance of success in the Treatment of such a disease must be little."

11. Jaundice.—Both Horses and Cattle are subject to Jaundice, and if not Treated early in the disease, it is liable to lead to inflammation of the liver, and, if in old stock, pretty hard to remedy, but in recent cases, and young stock a cure may be expected.—**Cause.**—High feeding, and obstructions in the bile duct. **Symptoms** are about the same in both Horses and Cattle—yellowness of the eyes, skin, and urine, and in Cattle, great thirst and considerable tenderness across the loins.

It seems almost incredible to read the accounts of some bad cases, where Treatment did not succeed; but, where calculi, or stone have formed, reaching the enormous size of 5 to 17 lbs., such, however, may be found in the Museum of the Royal College of Surgeons, in London.

Treatment.—For Horses, or Mules, give the mercurial ball, No. 10, after preparing the Horse by mashes, etc., then follow with the repeating physic, No. 3, as the case demands. For Cattle, give the cleansing drink, No. 2, and follow with the flaxseed tea, No. 15, as required, not forgetting the mustard with the tea, after the flaxseed is boiled—for the full 8 mornings.

12. Strangury, or Suppression of Urine.—**Cause.**—Strangury, or passing the Urine by little, may arise from inflammation of the kidneys, or from a spasm at the neck of the bladder by the presence of stone, or calculi. **Symptoms.**—If the difficulty arises from inflammation, there will be an unusual heat of the loins, or over the kidneys; and, if from stone in the neck of the bladder, the extra heat will be felt by putting the hand between the legs, behind, about half way between the scrotum and anus, and what Urine may be passed will have more, or less mucus, or pus in it. If stone in the kidneys, the bladder will generally be empty, or nearly so; but if in the neck of the bladder, or further along in the Urethra (outerduct) the bladder will fill and greatly distend, and the skin be covered with blotches, and unless a catheter is passed to draw it off, death will soon result.

Treatment.—Soft feed and diuretics, or Urine, powders, No. 11, as there directed, followed with the compound tincture, or anodyne draught, No. 6, to relieve pain, and, if need be, draw off the Urine. For Cattle, use the tea from the Juniper berries as found under No. 11.

13. Inflammation of the Eyes.—**Cause.**—High feeding, or external injuries; and in Horses they may arise from wolf-teeth

Symptoms.—Eye, or Eyes partially closed, running, more or less redness, etc. Cattle, especially endeavor to shun the light.

Treatment.—If from wolf-teeth, in Horses, they must come out "root and branch," not knocked off. And use the Eye lotion, No. 23, cleanse the Eyes well with warm water, and if the general condition of the Horse, or Cow, is such as to make it appear necessary, give physic, and tone up the system with No. 4.

14. Milk-Fever in Cows.—**Cause.**—It is believed that the principal Cause of Milk-Fever, or "dropping after calving," as the English people call it, is the diversion, or turning away of the blood from the womb, (where it has for some months been very active in the work of re-production) to the udder, by which the secretion, or formation of Milk is now being set up; beginning with more or less inflammation of the womb, *peritoneum* (a thin, smooth, membrane covering the whole internal surface of the abdomen, and more, or less, of all the organs contained in the bowels, of which it forms the surface), and soon becoming an inflammatory Fever, rapid and violent according to the condition of the Cow, and the appropriateness of the Treatment; the higher, or better conditioned Cows being more liable to it than those in moderate flesh, and condition, and the former being more likely to have it in its worst forms, than the latter. The Cow becomes restless, shifting her position, heaves at the flanks considerably, paws, looks wild and staring, dry, hot nose, becomes irritable, and sometimes throws the head about, endangering its horns, or those in reach of them.

Symptoms.—A high degree of excitement, the parts in which, or near which, the circulation is being so considerably changed, have greater inflammation, which assumes an intensity, and an obstinacy, not experienced in any other disease. Strength fails, so that the Cow often falls down, or lies down and cannot rise; and if she has been giving considerable Milk, it is now cut short, and in severe cases almost entirely arrested; and Youatt says: "The throwing back upon the system the quantity of Milk which some Cows are disposed to give, must add fuel to the fire, and kindle a flame by which the powers of nature are speedily consumed."

Treatment.—First, give the cleansing drink, No. 2, using $1\frac{1}{2}$ lbs. of salts; then bleed at the jugular vein by cording the neck, as directed for Horses; and if the blood will flow freely, take to the extent of 8, or 10 qts; then tie up the wound the same as in the Horse. In 6 hours after giving the physic, give $\frac{1}{2}$ lb. more of salts doubling the quantity of ginger as directed in repeating after No. 2, and at the same time give a clyster, or injection, and repeat the injection every 3 hours, and the $\frac{1}{2}$ lb. of salts every 6 hours, until an operation is obtained, as directed in No. 2. After the bleeding and physic has been given, then use the aconite, No. 5, every 2 hours.

By this prompt Treatment, it may be expected that a check may be given to the disease, especially if the blood was in such a condition as to flow with any considerable freedom; but if neglected long, and the physic and clysters are not repeated as directed, with promptness, the loss of the Cow will, generally be the consequence of the neglect. And it must *not* be overlooked, that where a physic has to be repeated several times, with a Cow, the ginger should be *doubled* in amount, with every repetition, as directed under that head. To hope for success, the bowels must be opened *early*, in the case; and if this is accom-

plished, the Fever will generally subside, and leave the strength quite good. It is not to be understood to repeat the full dose of physic, but only repeat in $\frac{1}{2}$ lb. doses. The first clyster need not be given until 6 hours after the physic, or at the time of repeating the $\frac{1}{2}$ lb. dose of salts; then repeat the clyster every 3 hours until a movement is obtained.

If the Cow was not taken in hand, in the commencement of the disease, and yet the bowels were successfully moved, although the strength may not be sufficient to allow the Cow to "get up," do not fret her, to make her rise, but change her gently from one side to the other once a day only; keeping the bowels gently open by giving the flaxseed tea, No. 15, which will also give them strength; and give bran-mashes with a little salt, for 2, or 3 days, for this time giving no hay; but after this give a little hay only, for a few days more, to aid them in obtaining a "cud"—when this is restored you may consider her safe; but still do not give her heavy "milk feed," by which I mean various grains ground together; bran and a little flaxseed will be enough for a week at least. Doctor Wallington gave me the history of a case where the Cow could not stand upon her feet for 3 weeks, yet, with careful nursing, and attention to the foregoing rules, she was saved. Dish water, or warm water, with bran, (but no meal) $\frac{1}{2}$ pt., or a pt. to a half pailful may be given often, as she will desire considerable drink.

"Prevention is better than cure," and it holds as good in preventing Milk-Fever in Cows, as in diseases of persons; for there are those who think that one of the principal Causes of Milk-Fever is in allowing the Cow to become too fat before calving. And especially will this be the case with the "improved" stock. To avoid this, about 3 weeks before a Cow is expected to calve, she should be kept on "short feed," no matter whether it is Winter, or Spring,—if in Winter, *stop all feed except dry hay*. Do not be afraid that she will become poor. She must be kept low, for this length of time, if you would avoid the great danger of Milk-Fever. And do not be so foolish as to give a pail of meal and water as soon as she has calved, but, if anything is given, let it be only some warm water, half a pailful, with a pt. or so of bran—nothing else—for 24 hours. "*The great source of danger is food given before, or after calving.*" There is no safety except in abstinence to prevent this Fever. The second day a half pailful of bran-mash may be given morning and night, and a drink of warm water at noon, and a small lock of hay only. It being understood now, of course, that we are speaking of a Cow in ordinary health, not suffering with Milk-Fever. On the third day, $\frac{3}{4}$ of a pail of bran may be given, morning and evening, and about a fourth-ration of hay. And after the third day, no Fever manifesting itself, full pails of bran may be given, and half-rations of hay for 2, or 3 days; then full feed may be allowed; but it is best to have all water warmed before it is given up to the 4th, or 5th day, and no other food, only as above directed. Mr. George E. Warring, in the *Ogden Farm Papers*, in speaking of Milk-Fever, closes with the following remarks, with the first part of which I fully agree, and notwithstanding I think he puts the "starving," question on pretty strongly in his closing paragraph, the first fully agrees with experience. He says:

"The danger will now be passed, if the food is gradually increased in quantity and richness. Another week of good feeding will bring

the milk to its full flow. If the calf is removed at once, the Cow should be milked from 3 to 6 times a day, according to the quantity of milk in her bag, until after the 4th day, and then gradually reduced to the regular milkings. I think 10 drops of tincture of aconite on a bit of bread" (I would say in a little sugar, see No. 5) "given once a day until the milk flows regularly, would add very much to the Treatment. *But the great cause of the fever is kindness,* We all have an insane idea that food is the great cure-all, and your country Cow-doctor will pour gruel through a horn into the stomach of a Cow that is down with Milk-Fever, when she is already bloated with the gasses of her undigested food, and burning up with a fire to which his food is only additional fuel. What we want to do is to get the food out of the Cow—not to pour more in. Our fault has been in giving too much. Until health is fully restored, and the Cow raises a natural cud, the less she gets to eat the better—she *ought* to have absolutely nothing. Have no fear of starvation. No Cow falls with Milk-Fever without food enough in her stomach and fat enough on her bones to carry her safely through any duration of the disease, and the great fear is that she has too much of both. I believe in high feeding in health and high starving in all febrile disease."

Second.—The second class of Diseases of Horses and Cattle are those of the surface, called *skin Diseases*.

1. Hide-Bound.—Cause.—Badly treated chronic diseases, indigestion, cold and wet. Symptoms.—The Symptoms are much alike in all domestic animals. The Skin sets tight, and the hair is rough and dry, and the Skin is also considerably parched, and may be full of scabs and scurf, or lumps like peas, or beans in size, and chafing and rubbing such parts as can be brought into contact with the stalls, or posts, from the great irritation existing in the Skin. Some have scabs all over the body and limbs, which may be moist, or dry, attended with heat and inflammation, or a discharge of humors that are sharp and irritating, so much so, that they will chafe themselves raw in many places. These Symptoms, if a man will reason a little, sufficiently point out the proper

Treatment.—That is, the blood is out of order, and must first be corrected by preparing the Horse, or animal, for physic, by mashees, etc., then give, for a Horse, the mercurial physic ball, No. 10, at night, and follow, in the morning with No. 3, until an operation is obtained—with Cattle, No. 2, following with No. 15.—Then with Horses, use the purifying powders, No. 8, in his feed. This Treatment will prove very satisfactory in all common cases; and farmers generally prefer to use the *powders* to giving a *ball*; but, in bad cases, that do not readily yield to the above Treatment, give the following:

Purifying Ball.—Take Venice turpentine and Castile soap, of each, 4 ozs.; beat them well together in a mortar until united; then add—nitre, flour of sulphur, crude antimony, crocus metallorum,* ginger, and gentian, of each, in fine powder, 4 ozs.; camphor gum, 2 ozs.; rubbed in a mortar with alcohol, 1 oz. Beat them into a proper consistency for Balls, with honey, or molasses. Divide into 28 Balls, each of which will contain about 1½ ozs.

* *Crocus Metallorum.*—Literally, *crocus* means saffron, and *metallorum*, metal, hence the term refers to a yellow, or saffron colored metal—a preparation of antimony with an acid that gives it this peculiar color, considerably used in Horse medicines.

Give 1 Ball every morning for 14 mornings; then every other morning untill all are given. But the Doctor again says, but few farmers will give the proper attention to their Horses, when sick, except it be the Germans, who, he says, will give the same attention to their Horses that they would to one of the family; hence, they cure nearly every case for which he prescribes. *If cures are to be accomplished, attention, and care must be given, in all cases, and it is doubly necessary in all cases of impure blood.*

2. Mange and Lice.—Cause.—Contagion (taking disease from another by contact), probably starts from poor keeping, and it may arise from long over-feeding, and want of cleanliness, and want of exercise. Symptoms are about the same in Horses and Cattle—itching, skin in hard thick folds, or wrinkled patches, especially about the neck, ears, loins, tail, etc., and the animal will rub and chafe itself against posts, fences, or anything it can get at.

Treatment.—The Treatment for Mange will be the same as for hide-bound, above, also using the Mange ointment, No. 32, both in Horses, and Cattle.

If Lice are present, which is quite often the case with these skin difficulties, use the purifying powders, No. 8, as above recommended for Mange; then get red precipitate $\frac{1}{2}$ oz.; and rub it up carefully with lard, 2 ozs. and apply, rubbing it along under the mane in Horses and Colts, and along the neck of Calves, and around the root of the tail, and between the hind legs of Horses, or Cattle. Make a pretty thorough application, and then if not all gone in about 3 days, put on a little more, will generally clear them all off. In Cattle and Calves, feed sulphur to purify the blood; as they are not common only upon animals which are in poor condition.

Arsenic, $\frac{1}{2}$ oz. to half a pail of water, and applied by washing thoroughly wetting the parts in a warm place, has been recommended for Horses as a certain cure for Lice. Hen Lice are great lovers of Horses, especially if the roost is near the stable.

3. Feltoric and Farcy.—Feltoric is a violent and malignant swelling of the breast sometimes extending along the belly as far as the sheath, the treatment of which will be found among the medicines, under the head of sweating liniment, No. 16, and is by some called *farcy*, but correctly speaking, Farcy is a disease believed to be very similar, or almost absolutely like glanders, although glanders shows itself in the lining membranes of the nostrils and cavities of the head connected with the nostrils, which discharge a yellow, or greenish matter, and sometimes streaked with blood, which after a time corrodes and destroys the thin bones of the part, which is also contagious, to man, as well as to beast, and but few if any farriers pretend that they can cure the disease, while Farcy shows itself by knotty tumors, first hard, then become soft and watery, discharging an oily, or bloody matter, and is almost as certainly incurable as glanders, unless taken in hand, at once, on the manifestation of the disease. This brings us to the: **Symptoms.**—The tumors, or swellings appear like buds, or knots, or buttons, and sometimes appear on the head, or along the jugular veins of the neck, but more commonly on the fore legs, and sometimes on the hind legs, extending up the veins of the thigh and into the groins, and may involve both thighs and the sheath of the Horse, in which case, no hopes of a cure may be indulged—*death*, the same as in glanders is the proper remedy for as both diseases are lia-

ble to be taken by the man who treats them, in an advanced, or last stage, it is better to kill them, for self protection, as well as to protect other Horses from taking the disease.

But, if on the very first appearance of these knots, or buttons, the sweating, or blistering liniment, No. 16, is well rubbed in *so as to blister thoroughly, and the blood is purified*, as given under the head of skin diseases, many cases have been saved, especially so, when the alterative drink, No. 33, is given every other morning, fasting 3, or 4 hours, then give a hot mash of bran and oats and warm water; and, more especially may a cure be expected, if the lumps, or buttons do not involve the insides of the thighs and yard. The internal Treatment in Farcy, as well as the blistering, must be carefully attended to if any hopes of recovery is to be entertained.

Third.—The *third class* of diseases of Horses and Cattle are :
Diseases of the Body Generally.

1. **Wounds from Incisions, or Cuts**—Cause.—Running against a sharp instrument, or accidental Cuts. Symptoms.—A clean Cut, or division of the parts.

2. **Contused, or Bruised and Torn Wounds**, are caused by blows, violent Bruises, falls, kicks, etc., tearing open, perhaps unsightly and uneven Wounds.

3. **Wounds of Joints and Tendons**, may arise from punctures of a sharp instrument, or kicks, letting out the synovial fluid, or joint-water.

Treatment, or General Directions for the Management of Wounds.—A clean cut Wound, if of considerable length, and depth also, it will be best to apply freely, the compound tincture, No. 6, and then bring the edges together with as many stitches as may be necessary to prevent the showing of a large scar—white silk thread, made stout, is probably the best article to use for the purpose. Apply the tincture 2, or 3 times daily, and they will often heal without mattering if the animal is in a good condition of health.

But in contused, or deeply and badly Bruised Wounds, and in Wounds made deep into the parts by the point of a sliver, or stub of any kind, and especially if there is known, or believed to be any thing broken off and remaining in the Wound, which cannot be removed, it will be advisable to make a tent* with common tow, of sufficient length to reach the bottom of the Wound, then dip the tent in the suppurating ointment, No. 34, and place it in the Wound until it begins to run. After which use the English white-oil, No. 27, freely. When it is supposed that there is any thing left in a Wound of considerable depth, it is well to probe it with a candle. Take a tallow candle and round off the end a little, and pass it into the Wound, and if the stub, or sliver is left, or a part of it, the candle will be broken and jagged, or notched so as to show it, and if any is found, if it can be removed it should be, if it cannot be, you must depend upon suppuration to bring it out, and the Wound must be kept open at the lower part of it, as much as can be, to allow of its running, which must be kept up by No. 34, as above referred to.

*A Tent is made by taking a suitable amount of tow, (or old linen cloths will do) and dipping them into the suppurating ointment when a running sore is to be made, or into a little tallow and rosin melted together if the sore is only to be kept open until it can heal from the bottom, rolling it up, then enter it into the Wound, leaving a piece to hang out to handle it by.

In Wounds of the joints no dressing must be used that is calculated to make a running sore, but, the reverse, an *astringent* liniment, No. 35, by dipping lint in it and pressing into the Wound, and bandaging it to hold it in place for 48 hours, bathing the parts well outside, with the compound tincture, No. 6; and if there appears to be any oozing from the joint on the removal of the first dressing, then dress in the same way with No. 35 $\frac{1}{2}$, gently walking the animal a little every day, if the Wound will admit of it, to prevent stiffening of the joint; and if these two applications fail to close up the Wound, some of the honey astringent, No. 36, must be injected into the Wound, and lint introduced into it and bound on as the others have been; keeping down inflammation and swelling by the use of the cooling lotion, No. 20, etc. In extensive Bruises where the Horse loses appetite, see remarks following No. 36, and use No. 37, as there directed.

Fourth.—The fourth class of the Diseases of Horses and Cattle are: Diseases of the Legs, Feet, etc.

1. **Swelled Legs.**—Swelling of the Legs are more common in the beginning of Winter than at other times, especially with farmers Horses, which are allowed to run more, or less to pasture during the warm season, caused considerably by changing from grass to dry feed; and from the soft water of the streams to the hard water of the wells, which especially effects the urinary organs, thickening the urine so much that the kidneys do not pass it all off, but leaves the cast-off, or worn-out matter, in the blood; which, by the greater strain of the Legs in standing upon plank, rather than the soft ground, causes the Legs to Swell, and after a little, to inflame, causing *scratches* at first, and if not remedied directly, *grease* is the result, which extends to the front part of the Leg up to the gambrel joint, and sometimes even, up to the belly, in which cases the sweating liniment, No. 16, should be applied above and upon the gambrel joint, but not below it.

2. **Scratches** may arise also, from neglect to properly clean the Legs and fetlocks of such Horses as have long hair about these parts, especially when working in wet muddy roads, or fields. In any of these cases when the Scratches first begin to show themselves, wash off the Legs, thoroughly with *chamber-lye* prepared by taking a pan of it and putting into it an iron wedge, or old axe head, red-hot, or such a piece of old iron as may be on hand. Then, after wiping the Legs dry, apply the white ointment, No. 38, twice daily. And at the same time, the urine powders, No. 11, must be given in mashes, alternating with the purifying powders, No. 8, to properly cleanse the blood. But if this condition continues to get worse, or you are called to treat one which has already gone on so that the whole Leg is effected with *grease*, or thickening of the skin of the fore part of the Leg and a discharge of fetid matter the same plan must be pursued for the urine and blood, but the physic ball, No. 13, the same as we give to follow the worm ball (but of course in these cases the worm ball is not to be given), and clip off all the hair of the parts; and wash thoroughly with the burned urine, and rubbed dry; then apply the sharp water, No. 39, and follow by bandaging on the ointment for grease, No. 40, and leaving it on for 48 hours, and so repeat 2, or 3 times, as directed under those medicines.

3. **Stifle or Strains of the Stifle Joint—Cause.**—The Cause of Stifle is more commonly a Strain of the ligaments of the joint. **Symptoms.**—The Horse after stepping carefully along with his other

feet, drags the Stified one up to the other hind foot, and steps off again with them, and so on.

Treatment.—Shower the Joint with a couple of buckets of cold water, by having a *sprinkling pot*, or some dish with a spout so as to pour the water upon and around the Joint, some other person patting the hair and water together to get the full effect of it. Then take a grain-bag and cut a round hole through both thicknesses, near the bottom, of such a size as to allow the foot and leg to go through it, to above the gambrel Joint. Now have the cooling lotion, No. 20, ready, and an old pan, pour some of the lotion into it, and take an old *flannel shirt* and wet it well in the pan by pouring more of the lotion upon it to make it thoroughly wet; then sew it upon the prepared *grain-bag* at such a point that, when the leg is put through the hole in the bag, and the bag is turned up over the back, the flannel of 3, or 4 thicknesses, shall come over the Stified Joint. Now tie the open end of the bag, by strings, around the opposite Leg, which proves a satisfactory way of keeping the injured Joint wet with the cooling lotion. Have a string on each side of the bag near the lower end, so that when it is put on, it can be tied around the injured thigh, to keep it close to the flesh. Remove the bag, twice daily, and shower the Joint as at first; then wet the flannel, and re-apply each time; and if the flannel is wet every 2, or 3 hours with the lotion, so much the better. Follow this up for 3, or 4 days; then use the following:

Bracing Liniment.—Take the best cider vinegar, 4 ozs.; aqua ammonia, 2 ozs.; egyptiacum, 2 ozs.; oil of origanum and spirits of turpentine, of each, 1 oz.; dry white lead, in powders, 1 oz. Put in a bottle and shake them well together every time when used. Apply twice daily, rubbing in well each time. This Braces and strengthens the cords or ligaments of the Joint; and, it will be found a valuable application after the inflammation has been reduced by the showering and cooling lotion.

4. Strains of the Back Sinews.—Strains and bruises of the Back Sinews, are easily discovered by the swelling, or inflammation which extends from the back side of the knee down to the heel. The leg appearing thicker and the Horse being lame. Pressing upon these Sinews will also cause the Horse to flinch.

Treatment.—Use the bracing or strengthening mixture, No. 21, as there directed; and if that cannot be supplied, use the same Treatment as for *stifle* as given above.

Fifth.—The *fifth class* of Diseases, given here are generally confined to Horses and Mules. They are:

Spavin, Curb, Ring-Bone, and Splints.—**Cause.**—It is generally believed that all of the above named Diseases arise from strains by hard work, or over-work,—Splints, more especially when the Horse is young; and yet, some persons believe that some of them are hereditary. 1. **Bone Spavin** is a hard swelling upon the inside of the hock, or gambrel joint, and the nearer to the joint the greater the difficulty arising from it. 2. **Curb** arises on the back part of the leg, and perhaps a little lower than Spavin. 3. **Ring-Bone** arises on the lower part of the pastern, near the coronet, or joining of the skin to the hoof, upon the forepart of the foot, like a ring, although it may appear only on the sides. 4. **Splints** are also hard excrescences, or out-growths upon the shank-bone, upon the fore leg of the Horse, and

unless they reach up to the joint, seldom cause much, if any, lameness. All of the foregoing diseases will require about the same:

Treatment.—For Treatment, see the ointment for Spavins, Splints, etc., No. 41, and use the last preparation of that ointment which contains the *glass* and tinct. of *iodine*. If the Treatment is begun in the early beginning of these diseases, the lameness may not only be entirely cured, but the bone enlargements also removed by absorption; but if of long standing it makes it a long and severe operation, seldom removing the enlargement, and sometimes, not even entirely stopping the lameness—so says a lengthened experience.

5. Mallenders, and Sallenders mean one and the same disease, except that the *first* applies to the difficulty where it occurs in the bend, or front of the hock-joint and the *second* when in the bend, or back part of the knee. They are believed to be **Caused** by a gross habit, that is, by a coarse, thick, insensible skin, or by constitutional liability, and the **Symptoms** are an enlargement, or thickening of the skin of the joint, or joints.

Treatment.—See the white ointment, No. 38, and follow the directions for using it, there given. This will generally be all sufficient.

6. Sprain of the Coffin-Joint.—The Coffin-Bone is the Bone which is enclosed in the *hoof*, and is very spongy; and the Joint is the one connecting with the little pastern; and in case of a *Sprain*, or *Strain* of this Joint, if it is taken in time may be cured; but, if left a long time, or until the *inflammation* extends into the spongy part of the Coffin-Bone, but little can be done for it. **Cause.**—Stepping upon a stone, or “balling” in Winter, may cause it.

Treatment.—First, clip off the hair about half an inch above the hoof, then apply, twice daily, a bran poultice, having removed the shoe, for 3 days. This will not only tend to *remove* the inflammation, but to soften the upper edge of the hoof so that the blistering, to follow, will reach down, or effect this Joint which is a little below the upper edge of the hoof.

Second.—Apply the blistering ointment, No. 41—the *first* part—not using the glass and iodine additions. Apply it for 6 mornings, leaving the last without scraping off.

7. Founder.—**Cause.**—Founder is a disease, believed, by our best farriers to be confined absolutely to the feet, although we often hear of *chest-founder*. It is caused by taking cold after exercise, or by over-eating of grain by accident. The **Symptoms** most prominent are tenderness of the feet, and restlessness in standing upon them, according to the severity of the case, and the number of feet affected—generally the forward feet, but it sometimes reaches the hind ones also. In that case the Horse will desire to lie down continually, and will rise, if obliged to do so with difficulty; and stands upon his heels, which will be the fact also, in most cases, when the fore feet only are Foundered, the hind feet being drawn up under him, so as to allow most of the weight to be thrown upon the hind feet.

Treatment.—Founder is simply an *inflammation of the feet*; and although the Treatment recommended by my friend Dr. Wallington, is rather against my own judgment, so far as the *bleeding* is concerned, yet, he assures me he has cured so many cases by it, I shall not only give it, but recommend it to be followed with faithfulness.

First.—Bleed, by placing a cord around the neck pretty tightly, as shown in Fig. 27, except that the knot of the cord should have been

represented over the raised jugular, as the knot helps, or should help to stop the return of the blood from the head, by its pressure upon the vein; but, the engraver misunderstood, or did not follow the directions. The vein may be raised by a pressure of the fingers, but the movements of a Horse are often such as to make it difficult to

FIG. 28.

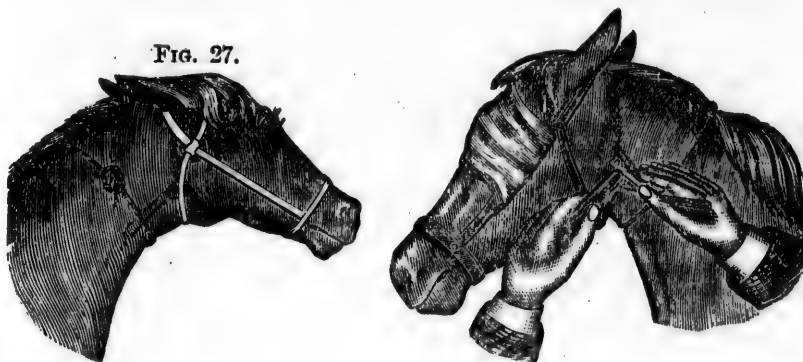


FIG. 27.

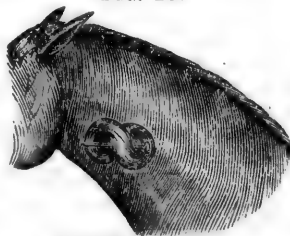
CORD APPLIED.

BLEEDING THE HORSE.

keep them upon the vein; hence, the cord is the better plan. It is well to blindfold the Horse before the fleam is struck into the vein, as represented in FIG. 28. The point chosen, generally, for bleeding is, the jugular vein, at a point about *two* inches below the angle of the jaw, or perhaps two inches below the union of the veins, near the angle of the jaw.

The fleam should be held directly in a line with the center of the vein, when it may be quickly tapped with a small but heavy, or firm bit of a stick, so as to make a clean cut. Fleams should be kept *sharp and perfectly clean*, to avoid inflammation of the vein from rust. The more free the flow of blood, the better it will be; and in the case of Founder, of which we are speaking, not less than from $2\frac{1}{2}$ to 3 gals. should be taken; then remove the cord, which will stop the flow of blood, and secure the wound by pushing a pin through the *two sides* of the opening, as shown in FIG. 29, and wind a few threads, or some Horse-hair, wet in the blood, around the pin, as also shown in the same cut, to prevent further bleeding. It is important to keep a Horse from eating, or chewing anything for an hour, or two after being bled. To do this, tie his head up

FIG. 29.



WOUND SECURED.

in such away that he cannot reach anything to eat, otherwise there may, and often is, a leakage of blood from the vein, which finds no outlet through the skin, but forms a swelling, and finally an inflammation, and possibly permanent injury.

Second.—Remove the shoes and place the feet in bran poultices, cold, using no heat, but changing them 2, or 3 times daily, for 3 days;

and pour cold water upon the poultices occasionally, or otherwise dipping the feet into a pail of cold water once in an hour, or two, at farthest.

Third.—As soon as the bleeding has been done, and the first poultice has been applied, give the following:

Physic Ball for Founder.—Aloes 14 drs.; Castile soap, $\frac{1}{4}$ oz.; best ginger, $\frac{1}{2}$ oz.; make into *two* balls and give *both*, one following the other immediately, as in one ball it would be too large to swallow conveniently.

If the Horse will eat it, let bran-mashes be given to aid the action of the physic; but if he will not eat, boil flaxseed, $\frac{1}{2}$ pt.; in water 2 qts. Put it upon the fire, at first, until it boils, then set where it will *simmer* only, for 2 hours, then give by the mouth; and if the Horse was costive before the Founder, give the same amount as an *injection*, following the instructions under that head, of removing the hardened feces, as far as a small man's arm and hand will reach them.

If these instructions are followed beginning at once, after the Founder, there will be no after-trouble, or even knowledge that the Horse was ever Founder'd; but if neglected for a day, or two, the cure is next to *impossible*.

After the foregoing instructions have been faithfully carried out, for 3 days the poultices may be removed, and the shoes tacked on, and the Horse led about, from time to time, as he can bear it, an hour or two at a time, and as a general thing there will be but little difficulty remaining. If there is much lameness, or tenderness apply the cold bran poultices again, for the same length of time as at the first; then turn him out for a week, or two, upon a low or wet pasture, when he will be found *all right*, says Dr. Wallington "in 19 cases out of every 20."

8. Sand-Cracks.—Sand-Cracks are **Caused** by a cut, or tread upon the coronet—the top of the hoof, or by brittleness of the hoof, etc. The **Symptoms**, or evidence, is a Crack running down through the whole hoof, from top to bottom, the sides of which will move upon each other.

Treatment.—The best Treatment is to take a three-cornered file, and file about 3 cross-marks so well down to the quick that it begins to indicate, by the flinching of the Horse, that you are nearly through—the idea is to get down to the quick, so that there will be a little oozing out of hoof matter to heal up the Crack; then if the Crack is open to the bottom of the hoof there must be a shoe to bind the bottom tight, then an iron band around the hoof, with a screw to tighten it firmly so it *shall not move upon itself*, after which, wet it, or soften it 2, or 3 times daily with *old urine*. This is also one of the best applications to a Horse's hoof which is naturally brittle, or tender. But remember, never to grease, or oil a Horse's foot on account of a Crack, for it makes the hoof brittle, contrary to the general opinion, while the old, burned urine, or *chamber-lye* has a very softening tendency. Where Horse's hoofs are dry and brittle, it is common, but injudicious practice to oil, or grease them, by which means many a good foot has been spoiled. The best method of keeping the hoofs tough, is to wash them in the old urine, or *chamber-lye*, once, or twice daily, which will strengthen, toughen, and cause the hoof to grow—nothing better to use in case a hoof comes off. This Treatment will also prevent hoofs from Cracking, or breaking after they are first rasped off,

in shoeing; it causes the nails to rust also, so that a clinch will seldom start from the time of shoeing till the animal requires again to be shod. When, however, the hoofs are constantly greased, or oiled, every day, the clinches will sometimes rise a $\frac{1}{4}$ inch in a week's time, which loosens the shoe, and causes the hoof to Crack as far as the nails extend.

9. Thrush.—This disease is very much the nature of the *rot* in the sheep's foot, causing the *frog* and whole *inside* of the *bottom* of the hoof to *rot* down so much as to spoil the foot, unless attended to early in the disease. .

Treatment.—1. Pare and clean away all of the rotten part of the frog, or other part of the hoof, perfectly clean. 2. Wash the parts well, 2, or 3 times daily, for 2, or 3 days, with the sharp water, No. 39, which will kill the suppurative disease and begin a healthy action in the hoof. Then: 3. Take about 4 ozs. of the *egyptiacum*, No. 36, and combine with it corrosive sublimate, in powder, 20 grs.; and alum, in powder, $\frac{1}{2}$ oz. Mix thoroughly. And now, a shoe must be put on the same as used in case of gravel, or pricked foot, given below. Then dip a pledget of hemp, or tow into the above mixture, and place it over the parts, covering this *egyptiacum* pledget, with another pledget of tow which has been dipped in common tar, and secure it in place with hickory splints, the same as described in gravel also. The pledget should be applied every morning, after having washed out the sore with some of the sharp water, No. 36, to ensure the toughening of the hoof. The *pledgets* will need to be renewed 3, or 4 mornings, after which, morning washings with the sharp water will be all sufficient. The Horse should never be worked while any of these dressings are being used, or until the part is well healed so as to avoid the danger of pieces of gravel getting imbedded into the soft hoof. If he *must* be worked, remove all dressings, splints, etc., to avoid this very difficulty, washing anew every time he comes into the stable is all that can be done. To secure these *dressings*, or *stoppings*, see FIG. No. 30. —4. In Stopping a discharge of this kind, it is very important to give a purge, No. 1, about *twice*, a week, or 10 days apart; and also the urine powders, No. 11, a table-spoonful each morning, as directed under that head.

10. Canker in the Feet.—This disease is generally Caused by neglecting a *thrush*. The matter working up between the front part of the hoof and the sensible part of the foot, causing, if neglected, a loss of the entire hoof.—Canker, literally means an eating, or corroding ulcer; hence is applied to an ulcerating foot.

Treatment.—The foot, or hoof must be pared down so as to remove all putrid and rotten parts which will cause a considerable bleeding, and care must be used not to get below the point of the *frog*, or you will injure the *coffin-bone*, and endanger the whole joint. When all the rottenness is removed, if there is much bleeding which there generally will be, the GRAVEL-SHOE, see FIG. No. 30, must be tacked on with a couple of nails, only to each side, then a handful of salt must be secured upon the parts with tow, or cloth pledgets, and the splints as directed in connection with FIG. 30. The next morning remove the splints, salt, etc., and wash off the blood, then wash with the sharp water, No. 39, and follow it with the 3rd instructions in the Treatment of THRUSH, which see, just above given; and cover it with the STOPPING, as found under the head of gravel, securing all with the

splints, as therein also described in connection with Fig. 30. Renew this application, or the whole Treatment, every morning; and should there at any time appear any proud flesh, then use the styptic, No. 42. One application of the styptic will generally be found sufficient, if not, use it again, the next morning, when re-dressing.

During the whole of this Treatment, it is very important to use the sharp water washing every morning when the dressings are removed, as without it the whole hoof is lost; then there can be no shoe fastened to the foot; hence no dressings can be retained without too much bundling with cloths, bandages, etc., which endangers the foot by creating too great a heat; therefore let me repeat it, for the danger of the loss of the hoof demands it, *wash the foot each day with the sharp water, just before applying the dressings, as above directed.* Applying the sharp water, No. 39, all over the hoof, and instep, and as high as the fetlock joint, which will prevent the hoof from falling off.

Also while this Treatment is progressing, it is important to give, a week, or so apart, 2, or three doses of the following:

Mercurial Physic.—Calomel 3 drs.; red nitrate of quicksilver, 3 scrus. in fine powder; precipitated sulphuret of antimony, gum guaiacum, and ginger, in powder, of each, $\frac{1}{4}$ oz. Make into 3 balls, with a little honey, or molasses. One ball makes a dose, and should be given a week apart, to be given at night, after the Horse has eaten his bran-mash, and follow it next morning with No. 13, as given after the worm ball. The purifying powders, No. 8, should also be used, 1 table-spoonful to be given, twice daily, in a little scalded bran, or scalded oats if the Horse refuses the bran, as some do.

By strict attention to the above Treatment, every skillful man will be able to cure the worst cases of *Cankered Feet*.

11. Gravel, or Pricked Feet in Shoeing—Wounds in the Feet, etc.—Horses are more subject to lameness in the Feet than in any other part, which, if neglected, often goes on to serious disease, as *inflammation, ulcerations*, etc. When matter is found in any part of the foot, it should be opened at once, to allow a free discharge; otherwise the bone, which is of a spongy nature, is liable to become inflamed, and the whole Foot greatly endangered. The most *dangerous* part about a Horse's Foot, is at the point of the *frog*; which being near the coffin-bone, a nail, or a stub in this part is generally attended with considerable danger.

And when any stub, nail, or thorn penetrates this part of the foot, if there is no *drawing-knife* (a small knife curved around at the point, such as used by blacksmiths in paring the bottom of a hoof in shoeing) at hand, the Horse had better be taken to the shop, and the Foot pared down to the quick, all around the part, and the penetrating stub, or nail, removed as soon as possible. If taken in hand at once, and the injury is only slight, a little spirits of turpentine poured upon the wound, and set fire to with a hot poker, will commonly prove all sufficient; but the turpentine must be put out before it is all burned off dry, else it will do more injury than good; then stop up the wound with the stopping dressing, No. 43, for a night, or two, will, generally effect a cure in all slight cases.

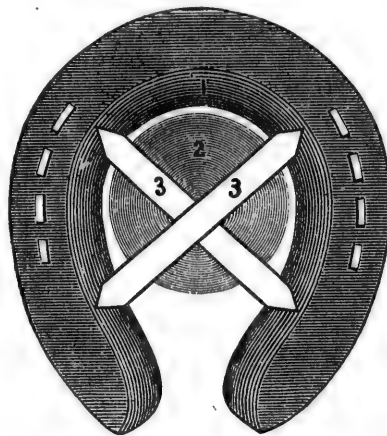
But if the wound has been made so deep as to effect the coffin-bone, no time is to be lost in the attempt to cure. In that case, the thorn, or snag being removed, and the hoof being pared down, and the Wound sufficiently open to admit of it, let a small *tent* of lint, or

to, be dipped into the penetrating mixture, No. 44, and pressed down into the Wound; or, otherwise take 2, or 3 feathers and tie them together and dip them into the bottle of the mixture, then press them down into the Wound, then cover all with the stopping mixture, No. 43, and splints, according to the instruction under the head of thrush, changing the dressings, and using the penetrating mixture, getting it deep into the Wound, every morning, see also Fig. 30, for securing the dressings. By strict attention to these applications, a cure may reasonably be expected, from all Wounds of *stubs, nails, thorns, gravel, pricking, etc.*

But should any nail, or sharp snag penetrate the joint of the Foot, so as to cause a discharge of the synovia, or "joint-oil," as some call it, it will prove extremely difficult to cure. No time should be lost, but proceed at once, to treat it as given under the head of Wounds in Joints.

In cases of Wounds in Horse's Feet, from *gravel, nails, or other snags*, it becomes necessary to secure dressings, to put in splints, or as they are generally called, "Hurds;" but with the ordinary shoe this cannot be done very well; hence

FIG. 30.



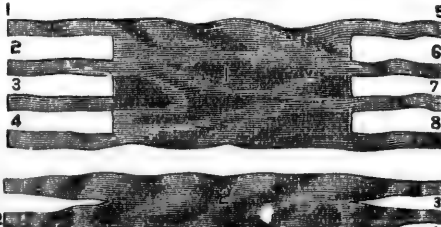
GRAVEL-SHOE—FOR SECURING DRESSINGS TO THE BOTTOM OF THE HORSE'S FOOT.

every man who keeps many horses about him will do well to have a shoe, or two, made according to Fig. No. 30, which can be readily tacked on with only about 2 nails on a side, and the shoe made rather thicker than the common shoe, to allow the proper dressings to be put on and a couple of splints to be put over them and under the edge of the shoe, to hold all in place, without coming down so as to allow the weight of the Horse to press upon them when the foot is put to the ground, or floor. Figure 1, represents the bevel, upwards, on the shoe, 2, represents the Dressings, and 3, hickory splints which can be sprung in, to hold the Dressings fast.

The bearing surface of the shoe to be level, as usual.

12. Poulticing in Diphtheria and in Horse Distemper, or Strangles.—In these diseases it is almost absolutely necessary to Poultice, otherwise the Distemper, or Strangles are pretty sure to break on the inside of the throat; and necessary to prepare two bandages the first an 8-tailed bandage, and the

FIG. 31.



FOUR AND EIGHT-TAILED BANDAGE.

30—DR. CHASE'S SECOND RECEIPT BOOK.

Diphtheria pretty sure not to break at all, but the Horse to die of suffocation from the extensive swellings in the deep parts of the throat.

In Poulticing, it becomes necessary

second a 4-tailed bandage, something in the form represented in Fig. 31, and their manner of application is shown in Figures 32 and 33.—1, is first applied as shown in Fig. 32, and 2, as shown in Fig. 33, more particularly described in connection with those Figures. The best thing to make them of is to take an old grain-bag and cut off a piece of the bottom of the bag and sew up the open end, then cut off the 8 strings, or ties, about 1 inch wide, and of sufficient length to tie over the *nose, head, and neck* of the Horse, as shown also in the cuts—Figures 32 and 33.

FIG. 32.

EIGHT-TAILED BANDAGE
APPLIED.

FIG. 33.

FOUR-TAILED BANDAGE APPLIED
OVER THE EIGHT.

When the bandages are both ready, wet up from a peck to a peck and a half of wheat-bran, just as hot as it can be borne by the Horse, then, having tied bandage 1, Fig. 31, by the strings 1 and 5, and 4 and 8, over the *nose and neck*, the middle will hang down like a bag, into which dip the hot moist bran, as full as it will hold, then tie strings 2 and 6 on the front of the ears, and 3 and 7 behind the ears, as seen in Fig. 32, and if necessary tighten, a little, the strings first tied; and then to keep these bandage strings in place, take a piece of twine and fasten them together, by first tying the end of the twine to the one over the nose, then wrap it around the one forward of the ears, next around the one behind the ears, then around the last one, and tie, which will keep them all in place, as seen in Fig. 33, preventing them from working down by which means the Poultice might be lost, or work out. Now it will be seen, by the moistening of the bandage, the center portion of it will hang down considerably from the Horse's neck, by which the desired effect upon the throat would be mostly lost; here it becomes necessary to take bandage 2, and place it up under this baggy portion of the Poultice, and tie it, by strings 1 and 3, in front of the ears, and by 2 and 4, behind the ears, which will bring the hot Poultice close up to the throat, as shown in Fig. 33, and by this means it will be kept firm and close to the throat, as also shown in Fig. 33, and by wrapping these strings around the wrapping, or securing string, which runs from the nose string up over between the ears to the neck string, which is also shown, as well as may be in the same cut.

And now, to ensure the greatest possible benefit from this Poultice, let them be renewed, every morning, and evening, with entirely new bran, as hot as can be borne each time. And at noon, let bandage 2, be taken off and the strings 2 and 6 and 3 and 7, of 1, be untied, and about 1 $\frac{1}{2}$ pts. of hot water be poured into the Poultice, which will, by the untying of the strings as directed, hang down a little loosely from the neck, and stir up the bran nicely together, then re-tie

the strings and secure them there, as at first, with the *securing string*. then re-apply bandage 2, also, which will do nearly as well as to take off all and use new bran, saving considerable time to the laborer at that time of day when he has much to do within the time that the team, with which he is working is allowed for eating.

Having *explained and illustrated* as well as I can, the best method of Poulting in Diptheria and Distemper, I shall proceed to speak more particularly of the diseases themselves.

13. Distemper, or strangles.—Cause.—The Cause of this disease is somewhat obscure; hence, it is called an *epidemic*, or *common disease*, as all young Horses are liable to have the Distemper, or as the English call it, the Strangles. It begins with a swelling between the jaws, of an inflammatory and painful character, extending to the muscles of the tongue, producing considerable heat, or fever, and difficulty in swallowing. The feverishness will be pretty general over the whole system, painful cough, great thirst, and yet extreme difficulty in drinking; the appetite being more, or less disturbed, sometimes eating but very little. The swelling will mostly be confined to the inside of the jaw-bones, root of the tongue, and upper part of larynx, or throat; and if this part is much affected, the nose will be considerably extended and held in the same position constantly, in order to relieve, or make the breathing easier; the eyes appearing *fixed*, or not but little change in position. This disorder sometimes discharges itself at the nostrils, when it becomes difficult of cure, taking the name of *bastard distemper*, and unless it receives prompt attention and the proper treatment may lead into *glanders*.

Treatment.—Keep the Horse in a warm, comfortable stable, and properly covered; *warmish* water, and *hot* mashes, are the proper food and drink. Bed him well and chafe and rub the legs, and all the better if the whole surface is well rubbed several times a day to help draw the blood to the extremities; but bleeding must never be resorted to in this disease, as it weakens and reduces the system and retards the suppurative process which is to be encouraged and brought about by the Poulting.

The Poulting, as described and illustrated under that head, must now be resorted to and pursued for several days, or until it breaks, or is ready for opening, (which may be known by a soft and pulpy place; then, the quicker it is opened the better. The cut must always be made lengthwise of the jaw—never across it); and when it is open it must be kept open by thrusting the little finger daily into the opening, or by introducing a tent, daily, as long as the Poulting keeps up the running—if it breaks of itself the orifice will probably be too small, and may be enlarged with a lance, or sharp knife, to admit the end of the little finger, as above mentioned. Wash the parts daily, or twice daily, with Castile soap, keeping them clean, to prevent re-absorption of the matter into the system. Keep the parts covered to prevent taking cold by exposure, which is extremely liable to occur.

Many persons in Distemper resort to smoking the Horse's nose over burning leather, feathers, tar, etc.; but if this is done, there is danger that the discharge may be breathed, more, or less, into the breathing passages which are thereby injured, and this injury often becomes permanent. The object and desire is, to make them break, or "come to a head" on the outside, so it can be opened there; for by this means the cure is quicker, and the danger of injury to the breath-

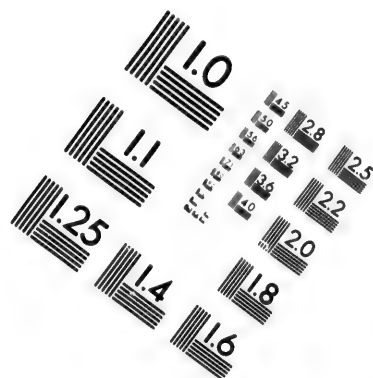
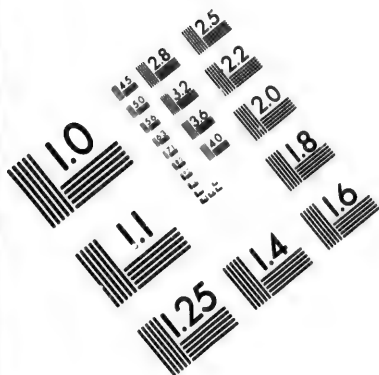
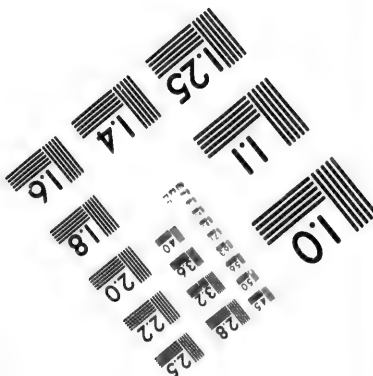
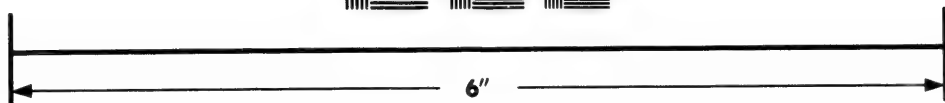
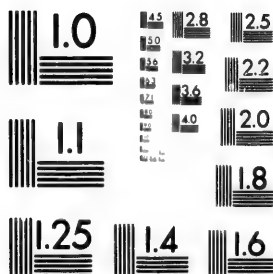


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ing passages is entirely avoided, and the danger of its running into the *glands* is also prevented.

14. *Colds*.—It is customary, however, and proper to smoke the nose of the Horse in common Colds; but it is highly important to know whether it is a Cold, or whether it is the Distemper. To aid in distinguishing the one from the other, it will be important to consider that the Distemper is like the measles in children—they seldom have them but once. Then if you know the Horse has had the Distemper when a colt, he is not likely to have it again. Then in old Horses, there is not the same liability to Distemper, as there is in the young Horse; hence, if there is a known exposure which would naturally give them a Cold, it will help to guide, or satisfy you that it is a Cold—there is likely to be cough in all three of the diseases—Distemper, Diphtheria, and Cold.

Treatment.—If the Cold is bad, it will be well to make a *nose-bag* out of some thick and firm cloth, or take an old grain-bag and cut off the bottom about a foot long, and cut off the width to suit, or set a little closely to the Horse's nose, and sew up the cut side, and sew a *wide, stout* string, upon each side with which to tie it over the top of the head. Then, if pine saw-dust can be procured, take 2, or 3 qts. of it and put it into the bag and pour sufficient hot water to wet it; then tie it on, that the Horse may breathe the hot steam, which will cause the nose to run, which gives relief. It will probably be necessary to keep the *nose-bag*, containing the pine saw-dust, on for a couple of days, or until the nose runs freely.

But if pine saw-dust cannot be obtained, wheat-bran may be substituted for it, by pouring over it, 1, or 2 ozs. of spirits of turpentine before the hot water is poured upon it.

The Pectoral Powders, No. 6½, must also be given to save the lungs, the same as in Distemper, or Diphtheria. But, ordinarily the Pectoral Powders, with bran-mashes will be sufficient to cure Colds.

15. *Diphtheria*.—Diphtheria in Horses, as with persons, has been known but a very few years; and, so far as I know, no writer has yet taken up and properly discussed the subject in any work on farriery. The symptoms of the disease are very much the same as in Distemper, the principal difference being in this, that the swelling is farther up under the ear, and is of more general extent than in Distemper, the swelling of which is confined more to the *glands* between the jaws. Again, Diphtheria hardly ever breaks of itself, but suffocates the Horse by the extent of the throat swelling, unless properly attended to.

Treatment.—It is very fortunate that the Poulticing Treatment is properly the Treatment of both diseases, so there is no danger of making trouble in mistaking one disease for the other; but as soon as any considerable swelling of the *glands*, or *throat* occur, let the *Poulticing*, which see, be at once resorted to; and let the Horse be fed on soft diet, as bran-mashes, scalded oats, etc., as it is not best to physic the Horse, but keep the bowels loose by this soft feed, and give one table-spoonful of the pectoral powders, No. 6½, night and morning, to prevent any possibility of the disease settling upon the *lungs*.

The importance, however, of the poulticing must not be overlooked, for it is the *chief* dependence; and, to give the poultice its greatest possible benefit, it must be kept close to the throat; for if it *settles*, or *sags* away from the throat, the air gets in and cools it off and the desired effect of *warmth and moisture* is lost.

And as soon as the poulticing has brought the swelling to "a head," it must be opened, externally, for this is the object sought, remembering, as in Distemper, never to cut across the flesh, to endanger the blood vessels; but, as the sailor would say, "cut fore and aft." The poulticing may then be kept up as long as it runs freely, and pursue the same course of general Treatment as in Distemper.

16. **Quittor, or Ulcer at the Coronet.**—Although I have put off the subject of Quittor, or Ulcer at the Coronet to be treated upon as the last disease connected with the Horse's foot, yet, it is by no means of the least importance, notwithstanding it is not of very frequent occurrence. It is claimed to belong to, or to be an Ulcer forming on the Coronet, or crown of the hoof, or foot, immediately above the hoof on the inside of the foot, called "the inside quarter," but I can see no reason why it is not just as likely to occur on the outer quarter, especially when it may arise from *gravel*, or from *pricking* in shoeing.

Cause.—It is Caused from treading upon the "inner quarter," and also from bruises, stubs, *gravel*, or *pricking* in shoeing, etc. The tendency of a gravel stone, when it becomes imbedded under the shoe, is to work through the bottom of the hoof, then to work along up between the hoof and the coffin-bone, until it reaches the *coronet*, where it forms a hard swelling, which quite often, has to have a sharp red-hot pointed iron entered through it to open the Ulcer and allow the offending matter to work out; and as the tendency of this disease, like *poll-evil*, is to form *sinuses*, or *pipes*, it must be attended to at once, if it is desired, or expected to avoid this evil and *dangerous* consequence.

Treatment.—The Ulcer, or Quittor opening of itself, or being opened by means of the hot iron, may easily be cured by applying the penetrating mixture, No. 44, which it will be seen is a combination of very valuable and penetrating articles, stimulating to a healthy action, and overcoming the tendency to *pipes* under the hoof. Of course, it is to be understood that if the disease has arisen from *gravel*, *pricking*, or any other cause, from the bottom of the foot, that it has been properly Treated there, as under these various heads; but as it sometimes will occur that the gravel has gone above the possibility of reaching it from below, it then becomes necessary to take it into custody from above, as soon as it appears at the *Coronet*, by washing off the dirt *every* night and morning before applying the mixture. The Horse should have rest, and, if it gets bad, he *must* have rest during the time of Treatment; but if he cannot be rested, or it is not so bad as to actually demand it, care must be taken to wash the part *every* night, as soon as he comes from his work, and when it is properly dry, rub in the mixture well, repeating in the morning, half an hour before he goes to work.

This mixture will be found excellent in curing all kinds of treads, stubs, and bruises, on the feet before they are Ulcerated; and will also be found valuable for the "*foul*," or "*rot*" in the feet of other animals.

When the Quittor is Ulcerated, or *piped*, however, which can be easily told by washing the part with warm water, letting him stand half an hour, or an hour, by which time, if Ulcerated, a thick matter will appear over the opening of the Ulcer. Then, to ascertain the depth of the Ulcer, examine with a silver probe, or if none is at hand, a hen's quill, having smoothed the end a little with a file, by which means also, the matter may be well cleaned from the Ulcer; then, sup-

posing the pipe to be small, only about of sufficient size to admit the hen's quill, take a piece of corrosive sublimate, *the size of a wheat grain, or the size of the pipe*, and place it in the mouth of the pipe, then with a piece of clean, well smoothed, hickory stick, of a size to just fill the pipe, the end of the stick being cut off square, so that by placing the end of it upon the grain of corrosive sublimate it will not slip past it, but carry it to the bottom of the Ulcer, which will need to be repeated at the end of 2, or 3 days; and it will not be amiss to roll up a small bit of tow and push it down the same way, to prevent the dissolving sublimate from working out. This will kill the pipe, and cause it to rise up, which after a few days, may be drawn out in the form of a core, and the wound healed with the penetrating mixture, No. 44. and the mixture given below, used in connection with No. 44.

In Case there should be more than one pipe, or orifice, the corrosive sublimate must be put into *each* pipe, so that all may be destroyed at one time.

After the corrosive sublimate has been introduced, as much as may be necessary to destroy the pipes and fetch out the core, the feet may be placed, once a day for 3, or 4 hours, in a bran poultice, which will aid the progress of the work; and when the core has come out, or been taken out, by gentle pulling, not to break it off, the wound should be cleansed with Castile soap, then the penetrating mixture, No. 44, introduced; and afterwards a tent of tow is to be also introduced after dipping it in the following:

Mixture.—Take egyptiacum, 2 ozs.; tinct. of benzoin, 1 oz; oil of vitriol (sulphuric acid), 1 dr. Let the mixture be made in a bowl, adding the vitriol slowly, then bottle for use.

Let this wound be cleansed once daily, and Treated with the two Mixtures, as above directed, securing the tent, by a roller-bandage as most convenient, by passing it under the foot and around the fetlock, as required.

Should there, at any time, however, be matter lodged, or confined, under the hoof, the hoof must be taken entirely away in that part, and a bar-shoe put on to ease the quarter and prevent the hoof from cracking through. This cutting away the hoof prevents the injury to the coffin-bone which is of so spongy a nature as to be easily injured; and if this bone is considerably injured, the Horse has no foundation left for further usefulness, and, hence may as well be destroyed, showing the greater importance of close attention, and proper Treatment.

Winter and Spring are the more common seasons for Quittor; and they are more commonly the accompaniments of scratches, grease, or other diseases of the system which quite frequently protracts, or impedes the cure, until the Horse has undergone a regular course of *physic*, and other general Treatment as called for under their respective heads; and the blood is more likely to become impure from urinary difficulties than from any other source.

And I am glad to be able to add, here, in closing the Treatment of the very annoying diseases afflicting the Feet of the Horse, or Mule, that, from what I know of Dr. Wallington's success as a Farrier and Cattle Doctor, who, as before remarked, has superintended the preparation, of the entire matter upon these subjects, if strict attention is given to the Treatment of these diseases, guided by a Common-Sense judgment, the people will be enabled to perform cures in the worst of cases; and especially will they be able to do so by having the neces-

sary instructions *at hand*, so that they take the difficulties by the "fore-top," as they arise, a neglect of which is one of the principal reasons for so many failures, which with *prompt* Treatment, would have been *successful*

The Doctor gives me an account of a gentleman who recently called him to prescribe for a valuable Horse which he had, but a short time previously purchased at \$200; but it being evening—the Doctor not having with him the proper medicine for the case—notwithstanding he was urged to go to town for medicine that night, he thought it made very little difference, for so short a time—that in the morning he would attend to it, and it would do just as well; yet, when the morning came, something else also came up which drew him off for the day, and in the evening he would attend to it, certainly,—but the evening again had its allurements, or labors, and thus the second night was passed, yet the life of his prized-Horse went with it, so that on the *second* day, he had the Horse's skin to take to town, with which to buy medicine, or what else he pleased.

If people expect to cure diseases of persons, or even their domestic animals, with such gross neglect as this, they will generally have a *corresponding success*, and they ought not to lay it to the *Doctor*, who prescribes, nor to the *Book* which contains the prescription, but to a very *evil* and *injurious* habit of neglect, or procrastination which they have fallen into, and to overcome which they ought to be willing to make every necessary effort; and if the recital of this case, and the consequent loss of another, by his own neglect, should excite anyone to overcome it in themselves, *without* loss, my object will have been attained, and I shall be more than repaid, by the saving of suffering to so valuable an animal as the Horse.

Skeleton and Points of a Horse Illustrated.—It is generally considered by all writers upon Farriery to be of such great importance to show the Skeleton of the Horse, and also to show his external Points that I have, to save space, adopted the plan of giving them both in one cut, FIG. 34, which I deem better than to have occupied double the space, by giving two cuts. I have also given an Illustration of the *internal* arrangement of the Horse, which but very few writers have done. This is shown in FIG. 35, and I think will be found very acceptable to all who take any interest in the welfare of the Horse, as it will enable them the better to understand his structure and consequently, his Diseases. A description of the Medicines will be found immediately following the Illustrations.

The names applied to the different parts, in describing the Skeleton of the Horse correspond very nearly, at least, with those applied to persons.

No one will accuse me of wasting space upon the page upon which FIG. 34 is found; for the *noble animal* is represented as being pretty well surrounded with descriptive matter,—he has it above and below him, before and behind him, yet he neither eats it, nor carries it, nor does he step upon it, or back against it—and I fully believe, he who studies it most, will like it best; and the same will hold good in regard to the whole Book. Hoping to be excused for any apparent jesting, which some might think better to have been left out of this paragraph, I will say it was written expressly to fill this page, as we could not divide the cut, which would have come half upon this page, following the original copy, yet, I hope this paragraph shall not prove altogether worthless.

FIG. 34.

DESCRIPTION OF SKELETON. d, e, f and g. Os innominata, or nameless bone.

A. Skull, forehead.

B. Lower jaw

C. Vertebra of the neck.

D. D. Vertebra of the back with

their spines, or upward spurs.

E. E. Vertebra of the loins.

F. F. F. Vertebra of the sacrum

and coccyx.

G. Sternum, or breast-bone.

H. The last of the lum, or TRUE

rib.

I. Cartilages of the TRUE ribs.

J. The first of the short, or

Cartilages.

K. Cartilages connecting the

false ribs.

L. By mistake, a instead of L.

represents the scapula, or

shoulder-blade, while L. rep-

resents the elbow joint.

M. M. M. aerus, or bone of the

upper arm.

N. O. Radius, or arm bones.

P. Pisiform, or pea-like projec-

tions of bone.

Q. R, S, T, U and V. Carpal

bones, corresponding to the

wrist of persons.

W. Large metacarpal bones,

corresponding to the bones

reaching from the wrist to the

knuckles of persons.

X. Small metacarpal bones.

Y. Scamoid, or seed-like bones

Z. Os sagittum, or lesser horn bone

of the jaw.

a. c. Os coronæ, or crown bone

of the

b. Os ses, or foot-bone, from

the

i of, taking the name also of

coffin-bone from its inclosure

in the hoof from the Lat.

COPHINUS, confer, a place for

safe keeping. These lower

bones of the legs and feet be-

ing alike in name, in all the

feet, I shall refer only to

bones, upon the hind legs,

which take a different name.

k, l, m, n and o. Tarsal bones, corresponding to the ankle joint.

p. Large metatarsal, corresponding

with the long bones of the foot

in persons. The small metatarsal is

seen extending, on all of the legs,

only a part of the way down, form-

ing a connection, by tendons

with the pisiform, or pea-

like bones Y, X, or

The comparison loses itself

here, unless it be extended up-

on the scale of ONE FINGER,

and OXE TOE; this is the prin-

ciple, however, upon which

the balance of these bones take

their name. Figures 1 to 15,

inclusive, belong also to the

skeleton.

1. The molars, or grinding

teeth—from the Lat. MOLA, a

mill, and MOLEBRE, to grind

in a mill.

2, 2. The canine, or dog-like

tushes—from CANIS, a dog.

3. The incisors, or cutting-

ing a connection, by tendons

with the pisiform, or pea-

like bones Y, X, or

The comparison loses itself

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1. The molars, or grinding

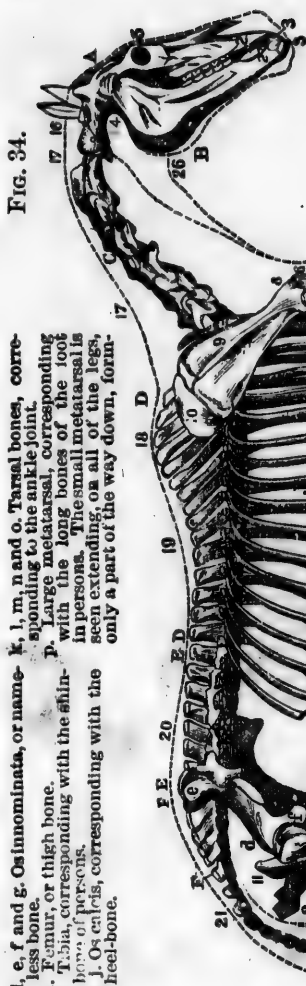
teeth—from the Lat. MOLA, a

mill, and MOLEBRE, to grind

in a mill.

2, 2. The canine, or dog-like

tushes—from CANIS, a dog.



teeth from INCIDERE, to cut, as to first cut.

4. The atlas, or first cer-

vertebra—first

neck-bone; being the

Lat. for ARCH, or a

support—the sup-

port and turning point

for the head.

5. The orbit, or cavity

for the eye,—from

ORBIS a circle, or cir-

cuit.

6, 7. Cartilages for at-

tachment of muscles.

8. Shoulder-joint.

9. Shoulder-blade, or

more correctly, the

blade of a shoulder-

bone.

10. The cartilage, or thin

gristly extension of the

shoulder-blade.

11. Trochanter major, or

large projection, or

(See next page.)

SKELETON AND EXTERNAL POINTS OF THE HORSE.

- process from the hip-joint for the attachment of muscles to give it great strength—there is another upon the inside, not shown, called trochanter minor, or little projection.
- 12, 13. The large joint of the femur, or thigh-bone with the tibia, or large bone of the leg.
14. Patella, or knee-pan, called also "the cap of the knee," etc.
15. Gambrel-joint.

THE EXTERNAL POINTS OF THE HORSE.

The dotted, or dash-like lines, are calculated to show pretty nearly the position of the skin, or external covering of the Horse, and with but few exceptions, the engraver has made a very good representation of it.

16. The poll, from the Low German *polle*, the head; hence poll-evil, literally an evil, or bad head.

17, 17. The crest or high part of the neck.

- 18, 19, 23. The largest and smallest girth, or circumference of the chest, except that at 19, the dotted line is a little too full, and 23 is a little too far back, it should be in the center, under 18 and 19, the highest and lowest points.
20. The loins.
21. Root of the tail, or dock.
22. The quarters.
24. The breast.
25. The point of the shoulder.

FIG. 35.



INTERNAL STRUCTURE OF THE HORSE.

1. Top of the head.
- 2, 3. The brain—divided—3, the cerebrum, or large, and 2, the cerebellum, or small portion.
4. One division of the nasal membrane.
5. The tongue.
6. Divided vertebra, or spinal column.
- 7, 7. Spinal marrow.
8. The pharynx, or back part of the mouth and upper part of the esophagus, or gullet.
9. Esophagus, or gullet which carries the food and drink to the stomach, at 10, passing through the diaphragm 12.
10. Entrance, or cardiac orifice of the stomach a.
11. Pyloric orifice of the stomach, or entrance to the intestines.
12. The cut edge of the diaphragm.
13. The wind pipe, or trachea.
14. The lungs partly cut away.
15. The heart.
- a. Stomach.
- b. Spleen, cut surface.
- c. Kidney.
- e. The straight part of the rectum which falls off almost perpendicularly at about the point where the division stops.
- f. The anus, or entrance to the rectum. The uterus is shown below the rectum, with its broad ligament, which gives it support.

MEDICINES FOR HORSES AND CATTLE.

No. 1. **Physic Ball for Horses.**—Socotrine,* or Cape aloes, 8—10—or 12 drs. (according to size of the Horse); ginger and Castile soap, 2 drs.; precipitated sulphur of antimony, 1 dr.; kali prepared (tartrate of potash), $\frac{1}{2}$ dr.; oil of anise, 30 drops. Make into 1 ball with honey, or molasses. "When it is necessary to give physic to a Horse, if the nature of the disease will permit the delay, he should be allowed bran-

*Socotrine is the name of the best article of aloes. They come from the island of Socotra, in the Indian Ocean, off the east coast of Africa.

mashes (bran wet up with warm water) for at least 12 hours previous to giving of the physic, and no hay on the day the physic is given. He should be allowed chilled water (water with the chill taken off), and have exercise (walked around a little); and if required to be repeated, a week should intervene between each treatment." But should the physic ball not operate in 48 hours, in any case, give No. 3, and repeat No. 3 in 12 hours more, if necessary to get an operation.

No. 2. Physic, or Cleansing Drink for Cattle.—Epsom salts, 1 $\frac{1}{2}$ lbs.; best ginger root, 1 oz. Boiling water, 2 qts., when sufficiently cool, give the whole. And if it does not operate in 12 hours, give salts $\frac{1}{2}$ lb. and ginger, $\frac{1}{2}$ oz. every 6 hours, doubling the ginger the second time. Balls must never be given to Cattle, for the ball would act like the grass, or hay a Cow eats, filling the gullet and carrying the air before it, opens a valve into the *rumen*, or first stomach where it never acts as physic; but giving it in liquid form it goes on to the digestive stomach and has the desired effect. It must be given slowly also, to avoid the same danger—aloes should not be given to Cattle.

In Milk-Fever the dose of salts should be 1 $\frac{1}{2}$ lbs. and then the $\frac{1}{2}$ lb. given in 6 hours in place of waiting 12 hours, as in common cases, and again repeated in 6 hours, if the bowels are not fairly opened before.

No. 3. Repeating Physic, or Draught for Horses.—Socotrine, or Cape, aloes 6 to 8 drs.; tartarized antimony, and tartrate of potash, of each, 1 dr.; spirits of niter, 1 $\frac{1}{2}$ ozs. Powder the aloes and pour on a little boiling water to dissolve them, then add the antimony and potash with cold water enough to make 1 pt. then add the niter, and give it carefully, from a bottle.

In any case where it is feared that a Horse is being over-purged, give him No. 6, as a check, and to relieve pain.

No. 4. Tonic For Horses, or Cattle.—Sulphate of iron (copperas), or sulphate of copper (blue vitriol) 1 to 2 drs.; camphor, 1 dr.; gentian, and ginger, of each, 2 drs. Molasses to form a ball. For Cattle, dissolve it in 1 qt. of gruel. Give once, or twice daily.

In any case of inflammation of the bowels, or colic, or general weakness, this may, and should be given in the flaxseed tea, even to Horses.

No. 5. Febrifuge For Horses, or Cattle—In Place of Bleeding.—As it has been found best not to Bleed Horses, or Cattle so much as formerly, it was necessary to find something that would lessen the pulse, and still save the Blood for the future strength—this has been found in the tincture of aconite 20 drops, twice daily; and in very high fever, or inflammation it may be repeated every 2, or 3 hours until the pulse is lowered, then, twice daily. Put it on a little sugar, and draw out the tongue, having it in a tea-spoon, put it upon the tongue and keep the mouth closed until swallowed.

No. 6. Compound Tincture, or Anodyne Draught For Horses, or Cattle.—Landanum, and tinct. of benzoin, of each, 1 oz.; oil of Juniper, $\frac{1}{2}$ oz. spirits of niter, 2 ozs. For Horses, or Cattle, in flatulent colic, or diarrhea, give one-half this mount in warm water, 1 $\frac{1}{2}$ pts.; and if not relieved in 1 hour, give half of the balance, same as at first; and if need be, in 2 hours more, give the remainder, in the same way.

This is very valuable for *persons*, in diarrhea, in doses of $\frac{1}{2}$ to 1 tea-spoonful, repeated every hour, or two. My friend, the English Farmer,

tells me that he believes 50 families around him, besides his own, are making this their *chief stay* in diarrhea, or Summer complaint.

No. 6 1-2. Pectoral Powders—a Valuable Remedy in Heaves.—Barbadoes tar, Venice turpentine, and Castile soap, of each, 4 ozs.; rust of iron, in powder, 6 ozs.; tartrate of potash, 2 ozs.; heat them all well together, then add, anise seed, carraway seed, elecampagne root, and ginger root, all freshly powdered, of each, 2 ozs.; liquorice root powdered, 4 ozs. Beat them into a mass, for balls, with molasses, or honey, reserving some of the liquorice powder to thicken with if too much molasses is used. Divide into 18 balls, and 1 ball given to a Horse every morning, fasting, for 2 or 3 hours after, and of course nothing is to be fed before giving the ball. And in *Heaves*, or other thick winded difficulties, continue until the whole are given. And in case of Heaves, remove all dry hay, feeding corn-stalks during the time; then wait 3 weeks, and repeat the operation. *This Treatment, as here given, has cured very bad cases of Heaves, permanently.* Dr. Wallington, the gentleman who has assisted me in preparing this Department of this Work, now drives a Mare in all the visits of his extensive practice, which he bought for \$5, she being so bad with Heaves, that in getting her home, the next day after the purchase, she laid down from exhaustion, or want of breath, some 20 times in the distance of 5, or 6 miles, taking all day, and until 9 at night, to accomplish this, to her, terrible journey. She is perfectly well and shows no signs that she was ever diseased. He has cured others, one of which afterwards sold for \$200. Then let it no longer be said that "Heaves cannot be cured"—they have and can be!

No. 7. Cough Powders For Horses and Mules.—Rust of iron, in powder, 6 ozs.; tartrate of potash, 2 ozs.; beat these well together, then add, anise seed, carraway seed, elecampagne root, and ginger root, all freshly ground, or powdered, of each, 2 ozs.; liquorice root, powdered, $\frac{1}{2}$ lb. Mix well together and keep dry for use. Give a Horse, or Mule 1 table-spoonful, twice daily, in wet feed, as bran, oats, or a little meal as they will eat best. It will soon allay cough. This with Nos. 8 and 11, makes a valuable condition powder.

No. 8. Purifying Powders For the Blood, For Horses and Mules.—Black antimony, finely powdered, cream of tartar, pulverized niter, and flour of sulphur, of each, 4 ozs. All being in fine powder, mix together, and keep dry, for use. One table-spoonful of these powders may be used night and morning, mixed in bran, a little wet, or wet meal, or wet oats, which ever the Horse will eat best. To be used in all cases of impure blood, especially in the Spring. If stallions are fed this, it will not only keep the bowels cool and open, but give them a nice shining coat. And, if in disease, the urinary organs are out of order, combine with it the *urine powder, or diuretic*, No. 11, and if any cough, or lung difficulty appears, combine the *cough powder*, No. 7, with these *two* and you have a condition powder hard to be beaten.

No. 9. Fever Ball For Horses and Cattle.—Niter, 4 drs.; tartar emetic, and camphor gum, of each, 2 drs. Molasses to make 1 ball; or when given to Cattle, warm water, or gruel, 1 pt. Give twice daily until the bowels are relaxed.

No. 10. Mercurial Physic For Horses and Cattle, in Jaundice.—Calomel and ginger, of each, 1 dr.; Socotrine, or Cape aloes, 2 drs. For a Horse, make into 1 ball with molasses, and give at night,

and follow, in the morning with No. 3. For Cattle give No. 2, and repeat, as there directed, until it operates; then give No. 5, as there directed.

No. 11. Urine Powders, or Diuretic For Horses, Mules and Cattle.—Rosin in powder, 1 lb.; tartrate of potash, juniper berries, and Castile soap, of each, $\frac{1}{2}$ lb. Cut the soap in thin slices, and pulverize all the others, then beat the whole in a mortar to a proper consistence, and give 1 large spoonful of the powder in bran-mash, or wet oats if the Horse will not eat bran-mash, twice daily.

In strangury (where the urine is passed drop by drop), and in suppression (where none is passed) this powder will be found very valuable, twice daily, with a dose, or two, of No. 6, to relieve pain. And in case of gravel, or stone in the bladder, these powders are to be used, and onions also to be given, if the Horse will eat them raw, or cooked, if he won't eat them they must be boiled and the juice, or gruel given daily. Whenever the condition of a Horse is such as to require the use of *condition powders*, they are made by combining this, with Nos. 7 and 8, as remarked under those Nos., and to be given in the feed as other powders are given.

For Cattle give the tea from $\frac{1}{2}$ lb. of bruised juniper berries boiled in water, 2 qts., and if gravel, give onion gruel, 2 qts. during the day. In one case—a mare, she eat nearly a peck of onions in a day, and with the other treatment, what was a large stone, broke up and one piece came away nearly as large as a hen's egg; and Dr. Wallington says that by soaking these stones in onion juice, they crumbled to powder. Onion juice is highly recommended for Gravel, in persons, which see, why then may it not be equally valuable for Horses?

No. 12.—Worm Ball for Horses.—Calomel, 1 dr.; Venice turpentine, $\frac{1}{2}$ oz.; oil of savin, 2 drs.; and Indian-pink root, and worm seed, in powder, of each, 2 drs. Mix and make into 1 ball, with molasses, and give at night, after having fed through the day with bran-mashes and no hay. And directly follow the ball with linseed-oil, 1 pt. in hot gruel which will warm the oil—one pt. of warm oil is better than $1\frac{1}{2}$ pts. cold. And the next morning you must follow with No. 13. Cattle are seldom troubled with worms.

No. 13.—Purge Ball for Horses; To Follow the Worm Ball.—Socotrine, or Cape aloes, 8 to 12 drs. (according to the size of the Horse); ginger, Castile soap, and oil of savin, of each, 2 drs. Make into 2 balls with molasses, and give, the morning after No. 12 has been given a Horse at night. (Both of the balls should be given at the same time; but in one ball it would be too large to swallow well).

Molasses, sage tea, linseed-oil, etc., has been thought to have a powerful effect in destroying bots, in the stomach; but, if 1 pt. of strong wormwood tea was given to the Horse, immediately after this No. 13, in treating for worms, it will be found to have an excellent effect in dislodging them. If *this worm treatment* is repeated once a week for 3 weeks, it will effectually destroy, and carry off all of the different kind of worms, in the stomach, bowels, or intestines. A single course of this treatment effectually removed all appearance of worms in my own Horse, some 8 months ago (which have not yet shown any symptoms of returning); but, in case it is deemed necessary to repeat *this worm course*, once or twice (and no physic treatment with a Horse should ever be given more than 3 weeks—one week apart), it should

be followed by No. 14, to strengthen the stomach and help digestion, as continued courses of physic tends to weaken the digestive powers.

No. 14. Stomach Drink For Horses to Aid Digestion.—Peruvian bark, and niter, of each, 1 oz.; gentian root, $\frac{1}{2}$ oz. All to be finely pulverized; then mix the whole in ale, or gruel, (ale is the best), 3 pts. and give $\frac{1}{2}$ of it warm, each morning; and 2 hours after, give warm bran-mash and warm water. The virtues of this drink deserve the highest commendation in restoring Horses which have been much reduced by long continued disease, or general debility, or that have been over-ridden, or over-driven, etc.

No. 15. Flaxseed Tea for Cattle.—When Flaxseed tea is directed for Cattle, the general understanding is that 2 qts. of Flaxseed are to be purchased (if not on hand), then take a $\frac{1}{2}$ pt. of it each morning and boil it in 2 qts. of water for $\frac{1}{2}$ an hour, and when milk warm, give it for a dose, and repeat it, day by day, until the whole has been given, unless entirely relieved before; but, in jaundice, after the Flaxseed has been boiled, and is cool enough to give, add to it 1 oz. of mustard, each dose.

No. 16. Sweating, or Blistering Liniment for Horses and Mules—Preferable to Rowels.—Linseed-oil, $\frac{1}{2}$ pt.; spirits of turpentine, 2 ozs.; cantharides, in powder, 1 oz., euphorbium, in powder, $\frac{1}{2}$ oz. Mix and shake them in a bottle for use.

This Blistering-oil, or Liniment, will be found excellent for all inflammatory swellings, and to prevent mortification from extensive external wounds. For feltoric swellings, which are of considerable extent upon the breast and down between the fore legs and perhaps along under the belly, rub in, with the hand, or fingers, against the hair, so as to get it well to the skin, morning and evening, for 2 days, about one-fourth of the amount, each time, scraping off any exuding matter that may be upon the surface, at each application, by means of an old case knife, or piece of shingle; and generally, by the fourth application there will have been established an extensive blister, and the matter discharged be considerable; now then scrape off what you can, and wash with warm water and scrape off again to get it as clean as possible; then apply soft lard as warm as you can well apply it, for 4 times, night and morning the same as before, and if the swelling is not by this time considerably reduced, and the matter discharged of a proper consistence—white and thick—(at first it will be thin and of a redish color and perhaps more or less bloody) take up the liniment again, following with the lard, just the same as at first. Wash the hand with cold water immediately after rubbing on this blistering ointment, and there will be no danger of its blistering the hand.

Then, to produce, again, a quick coat of hair, and to aid the cure, use the suppling liniment, or ointment, No. 17. This plan of blistering is especially necessary in farcy, or feltoric, as now called (a quick and malignant swelling of the skin of the breast, extending down between the forelegs and often along the belly) which is pretty surely fatal if not soon helped, and in swellings of the breast, or shoulder of Horses, and especially young Colts which are beginning to work, often with too large a collar, etc. To know when the blistering need not be longer used press the end of the finger upon the spot, and if the dent remains, there is still thick matter in, or under the skin which needs to come out, if the dent evens, or fills up directly, it is in good condition, and needs only the suppling ointment, No. 17.

Many persons, I am aware, object to the use of blisters, preferring the old plan of roweling, lest the hair be removed and cannot be restored. There are but *few* who, now-a-days, object to use the mowing-machine, in preference to the "old-man" with his old-scythe—blisters are as much ahead of the rowel as the mowing-machine is ahead of the scythe; and, unless it is a very malignant case, which requires the blisters to be repeated many times over, there is *no danger* but what the hair will again be produced, but there is *great danger* in these bad cases of felteric, that if the blister is not used, and that *speedily* too, that you will have no field to mow—in other words—you will have no Horse; for a rowel will not begin, under favorable conditions, to run much, in less than three days, and in these high inflammations, often it will not work, or run at all, and your Horse dies.—Of course every one can take their choice, I should choose a living Horse to a dead one—so says "Common-Sense."

In the Knots, or Lumps of Farcy, this blistering-oil should be used directly, and in quantity to correspond with the size of the swelling, repeated, and followed with the warm lard the same as in felteric, above directed.

In extensive and deep seated wounds, first cleanse them by washing them with warm chamber-lye, urine, then apply the English white-oil, No. 27; but, if, in any case, there is a drying up of the wound, and increased inflammation which would indicate mortification, immediately apply this blistering-oil, into and about the wound, which will, in most cases, restore the secretion of pus (matter) and again establish a healthy action and healing of the wound; then return to the urine-wash and the white-oil.

No. 17. Suppling Ointment to Follow Blisters, to aid the Growth of Hair, etc.—Ointments of elder, spermaceti and marshmallows, of each, 2 ozs.; gum camphor, $\frac{1}{2}$ oz. dissolved in the best alcohol, 1 oz. Mix all, and tie down in a small jar for use. Wash the blistered part, gently with warm water and dry with a dry cloth, then gently rub this ointment all over as far as the blister extended, twice daily, will soon reproduce the hair, and keep the parts soft while healing. It will be found also valuable in slight inflammations of the sheath of Colts, or Horses, or any other irritations.

No. 18. Cephalic, or Sunff Powders For Horses and Mules.—Euphorbium, 1 oz.; white hellebore, $\frac{1}{2}$ oz.; turpeth mineral (yellow sulphate of mercury), $\frac{1}{2}$ oz. All must be in very fine powder, and thoroughly mixed in a porcelain, or Wedgewood mortar, and bottled, and corked for use.

Used in colds, influenza, or catarrh, when the head is much stuffed up, by taking about a tea-spoonful, or what would lie upon a two-shilling piece, putting it into a joint of an elder, or tube of some kind and blowing into each nostril, once daily, until relieved; and if the Horse, or Mule gets too smart for you, or too vicious to allow it to be blown in; then, in that case, take two small goose quills and tie a piece of twine around them, so that they will stand the proper distance apart to enter the nostrils, then wet them thoroughly, and dip them into the powder to get as near as possible the correct amount upon each one, then enter them into the nostrils and fasten them there for a time with the cord, repeating daily as long as need be; but generally, it can be blown in. Extensive discharges, and consequent relief, is often brought about by the proper use of this powder. If, however,

it is blown in, great care must be taken not to draw it into your own lungs. Draw in a full breath before the mouth is put to the tube, then blow it with a puff, otherwise serious injury to yourself might occur, if accidentally drawn into the lungs.

No. 19. Camphorated Spirits For Horses and Cattle, and Persons in Pains, Strains, and slight Swellings.—Best alcohol, 1 pt.; camphor gum, 2 ozs. Bottle and cork for use. For pains in joints, sprains, and slight swellings this will be found excellent.

No. 20. Cooling Lotion, or Wash, for Horses.—Niter, 1 lb.; water, 1 gal. Mash the niter and put it into a jug with half of the water, and shake well to dissolve it, and, when done foaming, put in the remainder of the water. It is used for strains of the back sinews of the legs, often occurring in time of snow, by what is called "balling," also for general inflammations and strains. Apply 2, or 3 times a day for 2 or 3 days; then use the bracing, or strengthening mixture, next following:

No. 21. Bracing, or Strengthening Mixture For Strains.—Old verjuice (the sour juice of crab-apples, or of green, or unripe grapes—a vinegar made from them), or good cider, or wine vinegar, 1 qt.; camphorated spirits (No. 19), 4 ozs.; water of acetated litharge, extract of lead (formerly called Goulards mixture, No. 22. Druggists generally keep it), 2 ozs.; oil of origanum, 1 oz. Mix, and bottle for use.

This mixture will strengthen, or brace sinews greatly. But after it has been well rubbed in, on the parts affected, take a linen (cotton will do but not so good) roller, 2, or 3 yds. long, and wrap it around the leg upon the swelled tendon, or sinew, in order to support the part. If the swelling and inflammation be very considerable upon and about the sinews, let the part be fomented (bathed by wringing flannels out of hot mixtures) twice a day with this No. and No. 20, half and half, hot, for $\frac{1}{2}$ hour each time, then apply this mixture as first directed; but letting the wrapper, or roller cover from fetlock to knee. And this mixture as recommended, above, for the fomentation, will be found valuable for injuries at the knee, or pasterns, which Horses often receive by kicks from other Horses, and I am sorry to say, also often from a kick from the hostler. Rub the parts well with the combination, and for a $\frac{1}{2}$ pt. of the mixture, it would be the better to add $1\frac{1}{2}$ ozs. of spirits of turpentine.

No. 22. Water of Acetated Litharge, or Goulard's Mixture, Used in Strains, etc., of Horses.—Litharge, $1\frac{1}{2}$ lbs.; best cider, or wine vinegar, $\frac{1}{2}$ gal. Mix and boil to 3 pts. stirring all the time, then set aside to cool, and when clear, pour off and bottle for use. It is a valuable medicine, used in combination with others, from its cooling and repelling (driving away) effects on inflammations of various parts, and as an eye water, or lotion by reducing with a little water, etc., or better plan for the eye is to use No. 23, as follows:

No. 23. Eye Lotion, or Eye Water For Horses and Cattle.—Sulphate of zinc (white vitriol), 2 scruples; sugar of lead, and laudanum, of each, 1 dr.; water of acetated litharge (No. 22), 1 oz.; soft water, 1 pt. Mix and bottle for use.

Apply with a rag, and be sure to get some into the eye by holding up the nose; and if the case is bad, cover the eye from the light, by the use of a cloth properly secured. Eye diseases, and even blindness, sometimes arises in Horses from what are called wolf-teeth (eye-teeth). They grow down upon the nerve of sight; then they must be

taken out by the root—never knock them off with a punch, for that leaves the root to effect the nerve as bad as ever. They must be taken out by the use of forceps, after throwing the Horse, or they may be pried out by the use of a stout chisel, or otherwise a blind Horse may be expected,

No. 24. Drink, or Draught For Congestion, or Inflammation of the Lungs in Horses and Mules.—Aqua ammonia (full strength), 2 drs.; spirits of lavender, $\frac{1}{2}$ oz.; molasses, 1 table-spoonful; water, 1 pt. Mix.

To be given in congestion of the lungs by means of a horn, or bottle, only a little at a time, and not holding the head too high; best not put all into the horn, or bottle at once, for fear of strangling. After the draught is given, turn the Horses head to the door, and let him breathe the fresh air, or walk him, gently, about for a few minutes—15, or 20—out of doors. And if this is done at the beginning of the difficulty, he will become tranquil in an hour, or two, and take to his food again, almost, as though nothing had happened; but if the case has been neglected for some time, a little extra treatment will be necessary—that is, to use No. 16, on sides and breast.

No. 25. Clyster, or Injection For Horses and Cattle.—Boil flaxseed, $\frac{1}{2}$ pt. in water, 2 qts. sufficiently long to soften the seed and form a mucilage; then, add tartrate of potash, $\frac{1}{2}$ oz.; sweet-oil 1 pt.; and spirits of turpentine, 1 oz. To be given as per NOTE, in the treatment of inflammation of the lungs, or pleura. In inflammation of the stomach, or gripes, or other inflammatory diseases, the flaxseed tea, alone, is best, to be given, by injection, once an hour until a movement is obtained; but to aid physic, in common cases, give it with the tartrate and sweet oil.

No. 26. Iodine, as an Alterative in Consumption, or other Lung Diseases of Cattle—Iodine Ointment, etc.—Iodide of potash, 4 drs. pulverize and divide into 8 powders. Give 1 powder every morning for 8 mornings, by putting into wet bran, stirring well into it to cover the taste. Used in inflammation of the lungs of Cattle. Youatt recommends this very highly in Consumption of Cattle, arising from neglect in the treatment of catarrh, inflammation of the lungs pleurisy, etc., known by a feeble, painful, gurgling cough—used as above. For the Ointment see next No:—

No. 26 1-2. Iodine Ointment.—Iodide of potash, 1 oz.; lard, 7 ozs., and rub them in a mortar until perfectly mixed. It will seldom fail to drive away the enlargement of glands, or hardened tumors, whether under, or at the side of the jaw, or around the joints; and indurated, or caked udder, seldom resists its power, except when ulceration has commenced.—Youatt. But he—Youatt—and so does Dr. Wallington, think that, in most cases, if commenced soon after a hardness is observed in the udder, the following camphorated mercurial ointment, No. 26 $\frac{3}{4}$, in connection with the cleansing drink, No. 2, and the cooling lotion, No. 20, will cure nearly all of them. The camphorated ointment is made as follows:—

No. 26 3-4.—Camphorated Mercurial Ointment For Caked Udders, Caked Breasts, etc.—Camphor gum, 1 oz.; alcohol, 1 tea-spoonful; mercurial ointment, 1 oz.; elder ointment, $\frac{1}{2}$ lb. Drop the alcohol upon the camphor gum, then rub the camphor very fine, after which mix in the other ingredients, thoroughly rubbing together. Let this be applied after every milking, night and morning, the udder

having been well fomented, or washed with warm water, and the remains of the ointment well washed off at the next milking.

This has also been found very useful in scattering or curing indurated (caked) breasts of females, after child-birth, using some gentle cathartic in connection with it, as cream of tartar, or citrate of magnesia, etc., being careful that none of it comes in contact with the nipple to get into the child's mouth, when nursing.

With Cows, the udder being considerably hardened, or swollen formerly called "garget," it is well to let the calf have free access to the Cow if she will allow it to suck, to keep the milk from coagulating, or thickening from the heat and fever attending these indurations.

But, in cases where the camphorated ointment does not lessen the induration in the udder in 3, or 4 days, recourse must be had to the iodine ointment, No. 26 $\frac{1}{2}$, and the iodine, No. 26, may also be given to the Cow, internally, in doses of 6 grs., once daily, increasing the dose daily 1, or 2 grs. until it reaches 12 grs., for a dose, dissolved and given in flaxseed tea, or powdered and mixed in bran-mash.

In all cases when it is fully believed that ulceration has taken place, and approaches near the surface, it is best to lance, and this *sometimes*, has to be done quite deeply, to let out the matter, and quicken the process of cure.

No. 27. English White-Oil For Fresh Wounds in Persons, Horses Mules, or Cattle.—Tanners-oil, spirits of turpentine, and fresh chamber-lye, of each 4 ozs. Mix, bottle, and cork for use, and shake when used.

Here we have the cleansing power of the chamber-lye, or urine, the stimulating and healing properties of the turpentine, and the softening and emollient powers of the tanners-oil to allay irritation, so combined as to make a very valuable oil, or liniment for any, or all of the purposes for which an oil, or liniment is used. Dr. Wallington paid \$15 for this Receipt, to an other English Farrier, and soon had occasion to test its value. And this is the first time that he has made its composition public.

In order to give confidence in its use, I will relate two incidents, only, of the many that the Doctor has given me, of its benefits, and successes. 1. Soon after obtaining it, he was called to a Colt which had run the stub end of a bush through the upper and fleshy part of the fore leg, just back of the bone, which was carried around by the Colt from sometime in the day until past the middle of the night, before he was called (the family all being from home and several Colts running in a field where the brush had recently been cut with a sharp ax, leaving a sharpened butt, by the stroke of the axe. And these brush had been piled in heaps, so that by the running and play of the Colts, this one was thus snagged). The leg was much swollen by this long neglect, but he removed the bush, and dressed it with *nothing* but this white-oil. It healed readily, and left but a very small scar upon each side of the leg. 2. But a short time after the occurrence related above, he, in his daily rounds, was called upon to "cut" (castrate) about 20 pigs, for a farmer, and after all was ready for operation, and a pig caught, he put his hand to his pocket for his knife, when he discovered that he had left it at his last place of stopping where he had performed a like operation, but as one of the farmer's hired men had a dirk-knife, it was sharpened and the job commenced; but as the man holding the pig was a little careless, he al-

lowed the pig to give the Doctor's knife-arm, a violent kick, in such a direction that the long-bladed knife was pushed directly through the fleshy part of the other arm, near the bone, when the gentleman, for whom the work was being done, remarked, "there, Doctor, you have got your Summer's work before you, you had better quit now and go home"; but as he uses this white-oil in all cases of castration, he had it with him, and poured some of it into the wound, which also came out freely on the opposite side; he tied it up and went on and finished his work, and went the balance of his "round," and never lost an hour's time from the wound, and used nothing else upon it. I am satisfied of its value, for Doctor Wallington is a man of "truth and veracity," as well as a most successful farrier; and his object in making this Receipt public through Dr. Chase's Second Receipt Book, is that it may do thousands of others as much good as it has him, according to their needs.

No. 28. Diarrhea Ball For Horses and Mules.—Socotrine, or Cape aloes, 1 to 1 ½ oz. (according to the size of the Horse); rhubarb, in powder, ½ oz.; tartrate of potash, Castile soap, cut thin, ginger and gum myrrh, in powder, of each, ½ oz.; oil of juniper, 1 dr. Mix, and beat them into a ball with molasses, or honey, and give, after having observed the instructions with No. 1, and give the Horse also the same after management as there given; and after the physic is done operating give the following cordial, or tonic drink, No. 29, repeating it daily for 4, or 5 days, as needed.

No. 29. Cordial, or Tonic Drink in Diarrhea and Scours in Horses and Mules.—Aromatic confection*, 1 oz.; prepared chalk, ½ oz.; tinct. of rhubarb, and aromatic spirit of hartshorn, of each, 2 ozs.; landanum, ½ oz. Mix, and give it in warm gruel, 1 qt. and repeat every day, or every other day, for 3, or 4 times, as the case seems to demand.

No. 30. Alkaline Astringent For Diarrhea and Scours in Cattle.—Prepared chalk, 1 oz.; opium, 1 dr.; catechu, ½ oz.; ginger, ½ oz.; all made fine, in each dose, and to be given in thick, warm gruel. This may be repeated daily if needed, for 3, or 4 days. This treatment, when commenced before the disease has become chronic, will generally prove successful. Occasionally in the breaking up of other diseases, a diarrhea is a benefit, rather than a disease, but they should be watched, not giving them an undue advantage, against treatment by allowing them to become too firmly established.

No. 31. Alterative Balls For Horses and Mules.—Yellow, or crocus of antimony, Venice turpentine, Castile soap, niter, flour of sulphur, of each, in fine powder, 2 ozs.; aloes, in fine powder, 4 ozs.; black antimony, in powder, ½ oz. Mix and form into 8 balls, with molasses, or honey. If the Horse is in good flesh give one of these balls each morning for a week, fasting (on an empty stomach for 2, or 3 hours), then give a mash of bran and oats twice in the day, or one ball every other morning, for 2 weeks, as may be found best; but if the Horse is in poor flesh, or low condition, give the following.

No. 31 ½ Niter, yellow, or crocus of antimony, Castile soap, carraway seeds, anise seeds, turmeric, and ginger, of each, 2 ozs. All to

**Aromatic Confection and Powder* is made by taking cinnamon and ginger, in fine powder, of each, 1 oz.; cardamon seed, the hull or capsule removed, the seed part in fine powder, and nutmeg also in fine powder, of each, ½ oz. Mix thoroughly. This forms the powder, and may be used to flavor anything desired—the confection is made by thoroughly mixing 1 oz. of this powdered with 1 oz. of honey.

be finely pulverized, and made into 8 balls, with molasses, or honey, and give same as No. 31. And if this course does not clean off the scabs by the time the course of balls is given, then let the scabs and all irritated places be dressed with the following:

No. 32. Mange Ointment.—Spirits of turpentine, by weight, $\frac{1}{2}$ lb.; quick silver, 2 ozs.; hog's lard, $\frac{1}{2}$ lb.; flour of sulphur, 2 ozs.; train-oil, 1 gill. Rub the silver in a mortar with the turpentine until it is all taken up, then add the remainder and work well together until all are united. For mange which is a wrinkled and thickened skin, and for scab, after having attended to the condition of the blood, and not having effected a cure, this ointment must be well rubbed upon every affected part, if in warm weather, in the sun, and, if in cold weather, be warmed in with a hot iron, while it is being rubbed in, which will very seldom, if ever, fail to work an entire cure, if the blood has had proper attention.

No. 33. Alterative Drink for Farcy.—Prepared tutty (a preparation of zinc) red tartar, lapis calaminaris (a preparation of zinc with baryta), of each, in fine powder, 1 oz.; alum, in powder, 2 ozs. Mix and give all in tanners-ooze, or old urine, 1 qt. This will be repeated every 2nd morning for a week, as directed under the head of farcy, following, after 3, or 4 hours with a mash of bran and oats.

No. 34. Suppurating Ointment For Wounds.—Basilicon ointment, 1 oz.; cantharides, in fine powder, $\frac{1}{2}$ oz.; spirits of turpentine by measure, $\frac{1}{2}$ oz. Mix thoroughly. Used to cause a wound to suppurate, or run. And in case suppuration is sought, the Horse should have mashes, or soft feed, which will aid the maturation. In case of roweling, which however, is not much done now a-days, the rowel should be dipped into this before it is inserted. The basilicon ointment is made as follows:

No. 34 1-2. Basilicon Ointment.—Yellow rosin, $2\frac{1}{2}$ ozs.; lard, 4 ozs.; bees-wax, 1 oz. Melt, strain, and stir while it cools. It is a good ointment by itself, and is used considerably with other ointments.

No. 35. Astringent Liniment For Wounds.—Egyptiacum, or honey, 4 ozs.; wine vinegar, or best cider vinegar, 2 ozs.; verdigris, in fine powder, $\frac{1}{2}$ oz.; blue vitriol, in fine powder, 3 drs.; corrosive sublimate, in fine powder, $\frac{1}{2}$ dr.; tinct. of benzoin, 2 ozs. Mix, and shake together, and shake when used. Used as the first application in wounds, followed by the following, if necessary:

No. 35 1-2. Another Astringent, For Wounds, Joints, etc.—Egyptiacum, 2 ozs.; tinct. of benzoin and of myrrh, of each, 1 oz.; nitrous acid, $\frac{1}{2}$ oz. Mix in a bottle for use. Used to close wounds of joints, etc. In all cases of joint wounds the whole must be bandaged, to keep the dressings in place. And in case of much swelling the cooling lotion with plenty of camphor in it will be a good thing to keep the outside wet with; but, if in spite of all these, the wound being kept open by the frequent bending of the joint, spirits of turpentine, $\frac{1}{2}$ oz., must take the place of the nitrous acid, in this Receipt, and the new preparation injected into the wound and bound on the outside, as before.

No. 36. Egyptiacum, or Astringent.—Honey, $1\frac{1}{2}$ lbs.; blue vitriol, and verdigris, in fine powder, of each, $1\frac{1}{2}$ ozs. Melt the honey over a slow fire then add the others, and boil gently until a little thickened and of a redish color. This makes a very mild and satisfac-

tory astringent, used in many of the Horse medicines in this Work. Stir well when used, or to be taken out to mix with other medicines, with which this will greatly assist in curing all flesh wounds.

In extensive wounds and large bruises, sometimes caused by running away, or by getting run into, the Horse often looses his appetite, and seems to droop, and fall away. In such cases, besides the usual treatment, as above recommended, to improve the appetite, give the stomach drink, No. 37, repeating every other morning for 2, or 3 times as may be needed :

No. 37. Stomach Drink To Improve the Appetite in Wounds.—Peruvian bark, and spirits of niter, of each, 1 oz.; laudanum, $\frac{1}{2}$ oz. Let the bark be finely pulverized, and mix all and give in warm ale, 1 pt. Repeat every other morning, as needed, giving soft food, like bran and oat mash, that is, boiled oats and scald bran, which are easy of digestion.

No. 38. White Ointment For Cracked Heels, Scratches, Gravel in Horses, and for Michigan, or Prairie Itch, in Persons,* etc.—White lead $\frac{1}{2}$ lb.; sugar of lead, and white vitriol, of each, 1 oz.; lard, 2 lbs.; bees-wax, 2 ozs.; sweet-oil, $\frac{1}{2}$ pt. The white lead, sugar of lead and white vitriol (sulphate of zinc) are to be rubbed up on a painters stone, with the sweet-oil just sufficient to grind, or rub nicely to a consistence like thick paint. Melt the lard and bees-wax together and mix all, and stir them constantly until cold. This will be found very useful in cracked heels, or scratches, grease, mallenders, and sallenders, sore shoulders, and backs, bruises, scalds, old sores, and upon hard dry scabs, which it will soon remove. Apply twice daily after properly cleansing and rubbing dry, in grease, or scratches.

No. 39. Sharp Water for Grease in Horses.—Rosemary, thyme and sage, of each, a small handful; soft water, 2 $\frac{1}{2}$ galls.; alum, and copperas, of each, 1 $\frac{1}{2}$ lbs.; blue vitriol, $\frac{1}{2}$ lb.; white vitriol, 2 ozs. The herbs are to be boiled in the water until 2 galls. are left, then strained; and the other articles are to be all in fine powder, and added to the liquor while hot, and stirred until they are all dissolved, and put into bottles for use. After cleansing the heels and legs from dirt with the warm chamber-lye, this sharp water is to be well swabbed in, then, the ointment for grease, No. 40, is to be spread on lint, or cloths, if the sores are extensive, and laid on and bandaged on carefully so it shall remain on for 48 hours; then the sharp water again, and the ointment as before, for 3 times if necessary; which with the proper course of physic, purifying powders, etc., will be found sufficient to cure the worst cases of grease, and, it is well known that some of them, by neglect, become very bad.

No. 40. Ointment For Grease in Horses.—Honey, and lard, of each, $\frac{1}{2}$ lb.; balsam of sulphur†, 1 oz.; tar, $\frac{1}{2}$ lb.; white vitriol, and sugar of lead, of each, 1 oz.; alum, $\frac{1}{2}$ lb. The first 4 articles are to be melted together, and all the others finely powdered and mixed in by

*NOTE.—This Ointment has cured many very bad cases of the Michigan, or prairie itch in persons, by giving sulphur and cream of tartar to thoroughly cleanse the system. Applying the ointment only once daily for about 3 days, giving the sulphur mixture at the same time, the scabs will begin to come off; then use the chamber-lye prepared as described under the head of Diseases of the Legs in the treatment of Horses and Cattle.

†Balsam of Sulphur is an old English preparation made by boiling, to a hot heat, sweet-oil 8 parts, with sublimed sulphur, 1 part, being careful to have a cover by you so if it should take fire, boiling in an iron kettle, to cover it up, which will smother it out. When they unite, cease to boil, let settle and pour off the fluid balsam, for use.

stirring, and stirring until cold to keep them evenly mixed. This, in grease, must be put on lint, or cloth and thoroughly bound on, and kept on for 48 hours, and repeat the whole as needed. No case is known where 3 applications, with all of the purifying treatment, did not effect a perfect cure.

No. 41. Ointment for Spavins, Splints and Ring-bones.—Take Bees-wax, 4 ozs.; hog's lard, 2 ozs.; train, or common tanners-oil, $\frac{1}{2}$ pt.; gum turpentine, or Canada balsam, 6 ozs. Simmer these over a slow fire till dissolved, then put them in a jar, and add spirits of turpentine, 4 ozs.; corrosive sublimate, in powder, $\frac{1}{2}$ oz.; and euphorbium, and cantharides, in powder, of each, 2 ozs. Stir, and when nearly cold, add oil of vitriol, $\frac{1}{2}$ oz., then stir the whole until it stiffens.

This is a most excellent ointment for all purposes when blisters are required upon callouses of joints, or tendons, or strains of long standing, as of the whirl-bone (patella, or knee-cap) or of the stifle, etc. Where the blistering liniment would be too relaxing, this is applicable. For ordinary purposes, it will be rubbed in for 3 mornings in succession, using a spatula, scraping off, each time, before the second and third application is made, not scraping off the last time, in any case; but the mouth of the animal must be kept from them.

 But in cases of Sprains, Splints, or Ring-bones, take a 2 oz., box of the above ointment, and add to it tinct. of iodine, $\frac{1}{2}$ oz.; and powdered glass, $\frac{1}{2}$ oz.; working it thoroughly together upon a stone, or in a Wedgewood mortar.

Then, this last, is to be rubbed into the place six mornings in succession, with a spatula, as above, scraping off, except the last morning.

By the use of this double ointment, and never disturbing the scab which will form upon the part, the roots of the hair will never be destroyed; and if the lameness, or lump is not removed, it may be repeated after the scurf, or scab comes off, and the hair is again grown out, without danger of destroying the hair, even in repeating 3, or 4 times. The lameness will quite often be entirely removed by the first application, and with some, this is all that is desired; but others will not be satisfied while the enlargement remains; then, it must be repeated until its removal is accomplished.

No. 42. Styptic for Stopping Blood, Destroying Proud-Flesh, etc.—Take oil of vitriol (sulphuric acid), 1 oz.; spirits of salts (nitric acid), $\frac{1}{2}$ oz.; corrosive sublimate, $\frac{1}{2}$ oz.

Mix, by first putting the sulphuric acid into a good stout bowl; then put in the nitric acid, and when the effervescence ceases, and it becomes cold, put into a strong bottle, and add the corrosive sublimate. This will be found a fine thing to stop the external flow of blood, destroying proud-flesh, and for dressing all lacerated and bruised wounds, which, from their nature must suppurate to remove the bruised flesh, or gangrenous part of a wound; and for dipping a feather, or two into, and entering into penetrating wounds, etc., etc.

No. 43. Stopping Dressing for Wounds in Horses Feet.—Take tar, lard and Canada balsam (which is thick turpentine), of each, 4 ozs.; bees-wax, 2 ozs.; and spirits of turpentine, 1 oz. Melt together for use. This is often called for in diseases of the feet.

No. 44. Penetrating Mixture for Deep Wounds in Horses

Feet.—Tinct. of benzoin, 1 oz.; spirits of turpentine, 2 ozs.; egyptiacum, No. 36, 2 ozs.

Put these articles into a bowl, or pot that will hold 4, or 5 times as much, then add sulphuric acid, $\frac{1}{2}$ oz.; nitrous acid, 1 oz., putting the acids in a little at a time, then immediately add alcohol, 4 ozs. Mix all well and bottle for use.

No. 45. Cordial Drink for Over-Heated Horses.—Tinct. of benzoin, and aromatic spirit of ammonia, of each, 1 oz.; prepared kali (tartrate of potash), $\frac{1}{2}$ oz.; fresh powdered ginger, 1 oz. All to be given in cold water, 1 qt. Let this be given as soon as may be, after the trembling comes on, which will be seen more particularly in the tail, by an up and down, or trembling motion. It will seldom be necessary to repeat the dose, unless some hours elapse after the trembling, or weakness comes on, before you give the first one, then, it may be necessary to repeat once, or twice, 6 hours apart.

UMBILICAL HERNIA in Colts.—During the time that Dr. Wallington was assisting me in preparing this branch of the Book, his, and my own attention was called to the subject of Umbilical Hernia in Colts, by some inquiries through a Western agricultural paper for a Treatment, or means of curing such difficulties; and as the answer, or recommendation—bandaging—was so entirely different from what the Doctor had been practicing for several years, and to his mind so entirely inadequate to the necessities of the case, that he requested me to write out, for him, for publication in the said *Journal*, his Treatment, which I did, and it was published—the substance of which is as follows:

Being prepared with crooked needles, for spaying cows, he provides stout white-silk thread for sewing up the edge of the membrane, and afterwards the skin also. He then takes the Colt into the barn, laying it upon its back, with a good-sized billet of wood under each side to keep it in position for operation, also tying each leg to a joice overhead, leading the lines from the hind legs, backward a little, and the others forward, so as to take the legs as much out of the way as possible, spreading them a little sideways also, to prevent the Colt from turning over in his efforts for freedom; having also a man to hold the head to prevent its being thrown about and bruised in its struggles; and if another man, or two are by to assist in preventing the Colt from injuring itself in its struggles, so much the better. After a moment, or two of gentle caressing, the Colt will generally become quiet, when he proceeds to cut through the skin, a little longer slit than the opening through the membrane, the protruding intestines having settled into the abdomen, he then scarifies, or rather makes a cut clear around the edge of the callous ring, or opening through the inner membrane of the abdomen, taking out a strip an eighth of an inch in thickness, leaving the whole edge raw, so as to heal—without this scarifying of the edge, it will not generally heal, hence the failure of the bandaging process—he is now ready to sew up the inner opening, tying each stitch firmly by itself, then the outer skin in the same way, and the work is complete, without bandaging it at all. In one case, however, six years ago, there was a little accumulation of bloody serum between the inner membrane and the outer skin, the skin, probably, having healed first, which gave it the appearance of Hernia, causing the owner to fear a failure; but, on examination, it was found as above, and opened by a small puncture, which let off the

bloody water, and in a few days, like all the rest, the Colt was well.

His last cases, three in number, were all performed on the same day, Nov. 18, 1868, upon Colts belonging to men still living near this city, so that no fears need be apprehended, by anyone having such a case, to get a Farrier, or a young Physician (young Doctors always like these cases that give them the privilege of using the scalpel) to undertake the operation, with more than ordinary hopes of success.

Besides the eight cases of regular Hernia that Dr. Wallington has cured, he has also succeeded with two cases of hooking, one upon a Colt belonging to a gentleman of this city, from which the caul, the Colt being fat, protruded, looking, he says, much like a man's shirt sleeve hanging from the orifice in the Colt's side, which was also fly-blown, it being in hot weather, causing him to draw it out a little farther and ligate it (tie his silk thread around it) and cut it off, then sewed up the inner membrane, and the outer skin, as in the cases of Hernia, with the same result. The other case was a young heifer, Treated the same, except there was no protruding caul to be removed, and also successful.

In both of these last cases, persons said to the owners, "You had better knock them in the head, or shoot them, for they will die anyhow," but, as often proves the case, they were "false prophets."

To the foregoing plan for the Treatment of Umbilical Hernia of Colts, which the Doctor has successfully practiced for some eight years past, I suggested what I consider, and what he also thinks to be an improvement, and which he will adopt on all future cases, and that is this, *to cut out a little of the outer skin*, in an oval shape, over the Hernia, just sufficient to cause the skin to be a little tight, thereby helping to support the pressure upon the inner membrane; for, as he says, and anyone would judge, the skin is loose, having enlarged by the long continued pressure from the protruding intestines. The cutting out of a piece of the skin an inch, or a little more, wide over the center of the Hernial orifice coming to a point at the extremities—more, or less than an inch in width, according to the size of the Hernia—gives very great support to the inner membrane, which I think will greatly tend to insure success in the operation.

SYMPTOMS OF PREGNANCY, in Cows and Mares; Unfailing Test.—It was formerly believed to be impossible to tell whether a Cow or a Mare was Pregnant, or not, untill the motion of the young could be seen, or felt; and, so it was, in former times; but, the recent improvements of the stethoscope (an instrument, or tube, large at the end to be applied to the object to be examined, as the lungs, heart, bowels, etc., and small at the other end to apply the ear to, which enables one to tell very accurately the sounds within, and finally the application of the ear enables the physician to tell almost positively the exact condition of the internal organs of persons, as the lungs, heart, fetal heart, etc.; then why should it be thought at all improbable that, with a little experience, it may be applied to the Cow, or Mare, as well, with a very considerable degree of certainty. It has been applicable to ascertain the state of the circulation through most of the internal organs, and consequently the precise seat and degree of inflammation and danger so easily pointed out, and it may now enable the breeder, of Cattle and Horses, to ascertain the existency of Pregnancy at as early a stage as 10 weeks. The beating of the heart of the Calf, or Colt, will be *distinctly* heard, *twice*, or more than twice as often as that of the mother's and each

beating of the pulse will betray the singular *double* beating of the fetal heart (from the Lat. fetal, a bringing forth of the young). (And this double sound will be followed by the rushing, sound of the blood, as it passes through the placenta. The ear should be applied to the upper part of the right flank, and shifted back and forward and upward and downward. Youatt says, "these sounds will soon be heard and cannot be mistaken."*

Dr. Wallington, by whom my attention was called to the importance of this subject, and who has tested it to his entire satisfaction, both in Cows and Mares, says: "That within 10 weeks, it can be told for a certainty." And now only a word more on this subject; and that is, as to the object of it. Simply, many persons would *kill* a Cow for beef, in the Fall, if they were certain that she was not "with calf," and many persons who had "put" a Mare to a valuable Horse, if they were certain of her not being "with foal," would part with her; when, if certain of the foal, would not part with her for *double* the money they might otherwise obtain.

HANDLING VICIOUS HORSES, BREAKING COLTS, ETC.

Man's welfare and happiness are so generally, and so closely connected with the *viciousness*, or *gentleness* of the Horse, that I think I cannot use a few pages of this Book to a better advantage than in explaining the most improved methods of Training, or Handling Vicious Horses, Breaking Colts, etc.; for, at this day, when it is possible to thoroughly Break, and absolutely bring *ninety-nine* of every one hundred Horses under *absolute control*, no man ought to *permit himself*, nor ought he to be *permitted* to drive any Horse from home that has not been thoroughly Trained, and thus brought under this control. It will be my object and purpose to make this plain, step by step, as I proceed.

Horses have reasoning faculties only in accordance with their experience. They reason of the cause only as they are affected by it, hence they can be taught only by acts; with them "acts speak louder than words," hence the very great importance that every *act* and *movement* about a Horse, or Colt should be right—both kind and gentle; for no animal has a better memory, and none are so quick to reciprocate a kindness, or to resent an injury. He has a quick eye and closely observes every movement around him; and every movement with him, gives confidence, or otherwise excites fear; hence no one who expects to Handle, or control a Horse should ever show fear, anger, or excitement, but be always cool, though determined; and as no two Horses are exactly alike in disposition or habits, any more than in looks, care should always be taken to ascertain the character of each, as far as possible, before Handling, in any case, is commenced, so that every movement may have its desired effect. This may be done

*He gives the following extract, as proof of the position here taken, from an Essay on "Auscultation, as the only unequivocal" (positive) "evidence of Pregnancy," by Dr. J. G. Ferguson, Prof. of Midwifery at King's College, London. "A goat had been procured, for a very different purpose, by Drs. Hunt, Carrigan, and myself, and bound on its back upon the operating table. I casually" (without previous thought, some would say, by chance) "applied the Stethoscope to its abdomen, without the slightest previous knowledge of its Pregnancy, and was surprised to detect, almost immediately, the distinct, *double* pulsations of a fetal heart. My two friends, to whose accuracy of observation I have often been indebted, satisfied themselves, perfectly, of the fact; and on examining the uterus" (womb), "about an hour afterwards, we extracted a foetus, the heart of which did not exceed the size of a hazle-nut. On inquiry of the person who sold us the goat, and on whose accuracy we could depend, we learnt that it was *exactly 7 weeks* from copulation."—*Dublin Medical Transactions*, vol. 1, part 1, New Series.

mainly by inquiry; but it is best not to depend upon this absolutely; for, notwithstanding a man's life may be greatly endangered by it, yet there are some persons who would mislead in order that he might catch some one in ignorance of his profession; hence, learn all you can by inquiry, then make your approaches carefully, that no undue advantage may ever be obtained over you by any Horse, whatever. Notwithstanding, however, that no two Horses are exactly alike in disposition, yet there are some things that effect all Horses alike, otherwise a *very* different plan would have to be adopted to Handle, or Break them, but, as it is, a very similar plan does for all. And

First: all Horses are effected about alike by Encouragement. By patting and caressing a Horse, or Colt, you give him confidence, and say what he is doing is right, no matter if he kicks at you and you pat and caress him you say he is doing right. This you may know by the way circus Horses perform. If you get a balky Horse to draw, and caress him for it he takes it no more for granted that he is doing right than in the first case—the same in anything, be careful never to *caress* and *encourage* only what is right, but by *gentle* reproof show them, in all wrong actions that they are wrong.

Second: Horses Learn by Signs. Although you cannot teach a Horse the knowledge of words without a *Sign*, yet, with Signs they may be taught almost every thing, at least, all that it is possible for them to do; and this must be shown by a *forced* movement of the body, at first, for a forced movement is all the same to him as a *willing* one, if followed by the caressing assurance that it is right, and what you want him to do. So, at first, you must not ask a Horse to do anything, or to make a movement unless you have the power, or are in a condition to *force* obedience. In teaching a word of command, give the word just before making the Sign, and he will soon learn to make the movement without the Sign, which will be better understood as I proceed.

Third: how Horses Judge of objects of Fear. All Horses Judge of Objects of Fear by the touch of the lip, or by smell—his upper lip is his fingers, and although most persons believe that he Judges also by smell, yet it is more than probable that what we think he seeks to smell of, is only a movement to *feel* of it with his lip, for it will always be noticed that he must touch it. He is fearful of being injured, but when he feels of it and realizes that it does not hurt him, he cares nothing for any peculiar, or frightful appearance. So never strike a Horse with the whip when he sees something of which he is afraid, for he will think it is the object that hurts him, and will always be afraid of it; but having thoroughly controled his mouth, as hereafter explained by the "War-Bridle," so that he neither dare turn to the right, or left, run back, or go forward when he hears the word "whoa," give that, to him, the only *awful* word, when he will stop as if "struck by lightning," after which give him time to examine it, and he will afterwards have no fears of it, if he does, more pains must be taken to familiarize him to it, and with it.

Fourth: How, or rather Where to Control the Horse.—The whole theory of the latest improvements in Handling Horses depends upon the important fact, that *when you Control a Horse's mouth you have in fact, Controlled the whole Horse.* It matters not what the bad habit is if you can have his mouth, at the time, it can be broken up, in other words, any evil habit practiced while in harness can be broken up by the mouth, but such habits as jumping fences, etc., because you can-

not have the Control of the mouth, at the time, must be done by other means. No matter how light a rein a Horse may drive under, which has never had his *mouth Controlled*—has never been Handled, or *truly Broken*—if he becomes frightened and attempts to run, kick, bolt, or shy; you have *no control over him*, and your only safety is, if he runs, to guide him past obstructions, if possible, otherwise, all will probably be dashed to pieces; but, if you have Control of his *mouth* you can rid him of the fear of his heels, or rather that something will injure his heels by taking the things, at which he naturally shies, and familiarizing him to them, first his nose, then his body, and finally his heels, until he will give up kicking at any thing, for he learns that they do not hurt him. Get, and keep the Control of his mouth and he will quit bolting, or shying; and by keeping his attention on the bit he will forget to look for fearful objects along the road-side, this having been his evil habit, and any other, he will give up in the same way.

Fifth and lastly: Signs that the Horse has Yielded, or become Submissive.—When you desire a Horse to do something, which he prefers not to do, he will set every muscle of his body against it, and resist until he realizes that resistance is in vain; but while his muscles are rigid and unyielding, you must not put yourself in a position to be kicked, for that is his manner of defending himself, or saying "don't touch me." Most people suppose that if a Horse has a stiff "dock," or clings his tail tightly, that he is a stout Horse, merely, while it is only a sure Sign that he is afraid of being injured by something touching him in those parts, in other words, "that he is afraid of his tail," and most likely will be inclined to kick if persevering efforts are made to relieve the line, or whatever other thing it may be; but if you rid him of the fear, by Controlling him, he will relax the muscles and give up the tail, or any other part, to be Handled as you desire. If he shows any fear, or anger by setting the muscles of the ears and inclining them backward, distending the nostrils, and "fixing" the eyes, hugging the tail, etc., the Handling must be continued until all are relaxed, in fact, until he yields even the muscles of the mouth and neck, so that he will answer quickly to the slightest touch of the "War-Bridle," or the rein, and gives up his attempts to bolt, kick, shy, or run, as the case may be, and allows you to touch every part of his body and limbs without flinching, watching for him to yield at every step of the Handling, and caressing as soon as he gives up; but being bold and energetic, though not unnecessarily harsh, or severe in your movements by which you are to accomplish it; remembering that if you give up before he does, you have a very much harder job before you than at first—you must know no such word as *fail*.

The War-Bridle.—I have spoken of the War-Bridle, and of Controlling, or Handling the Horse by it. In the hands of a stout, fearless and energetic man it is a powerful means of Controlling the Horse—I have known of none able to resist it.

Although it is called a "War-Bridle," yet, as a whole, it is a species of "Harness" also, as represented in Fig. 36. As there represented, I had one made for a Canadian pony, and have used it upon him several times, for these French Canadian's are the most stubborn of all the Horse-kind that I have ever seen, even the Indian ponies of the West are not more stubborn and willful than they; but with this "rig" upon them and a few "Handlings" none of them can resist its persuasive powers, indeed, it is perfectly astonishing to see

how quickly you can cure even them, of any bad habit by this simple yet, terribly powerful means of Control. It was only high-keeping with but little labor that caused "Dick" to require its application more than once. If applied as shown in this cut, it has undoubtedly ten times more power over the Horse than the Rarey method.

FIG. 36.



WAR-BRIDLE AND HANDLING-HARNESS.

through, with buckle-attachment to buckle around the fetlock which aids materially in taking the "wind" out of the Horse, or in other words, Controlling him in one-fourth of the time that it could be done without it. The knee is also to be provided with a leather cap to protect it from injury as the Horse comes down upon it in "laying him down" as it is called. That is secured by two small straps with buckles, which the engraver has failed to show. Now, with a $\frac{3}{4}$ -inch cord made of the best Russian hemp, or the very best sash-cord, fully 20 feet long, you are ready for trying your ability in understanding our description, as well as your power and adaptation to become a Horse-tamer.

Now tie a knot at one end of the cord, then an open knot in the cord at the proper distance to pass around the neck the same as if putting on a neck-halter, and slip the end knot through the other and tighten it the same as if a halter, which, in fact, it is for the present, then draw sufficient of the cord through, double, to make a loop sufficiently large to allow a half-twist to be taken in it, then to be put into the Horse's mouth as shown in the cut. The half-turn prevents the cord from slipping. With this all arranged as shown in the Fig, you are ready to proceed with the Handling; but some persons prefer to buckle up the opposite foot from the one upon which side the cord is passed through the ring, as the head of the Horse is drawn towards the ring-side which naturally throws his weight towards the opposite side where there is no leg to support himself with, and he consequently comes down sooner; but I did not do so, and conquered, why may not others? I have shown it all upon one side so its manner of application could be plainly seen. This is called

Laying the Horse Down.—There is probably no plan yet known

In the first place have a strong leather girth made to go around the body of the Horse, with buckle, strap and crupper, side-straps and ring to pass the "War-Bridle," or cord through, as also shown in Fig. 36. There is also shown an extra strap with ring to pass the belly-band part of the girth

by which a Horse can be so easily, quickly and perfectly Controlled, or Broken as that of *laying him down* for a few times, or until he yields obedience to every movement of the operator, by the War-Bridle, and finally by the lines; besides this, if care is taken to pick up and clear away all sticks, stones, etc., which may be on the ground where he is to be laid down, there is not the danger to yourself, nor to the Horse, for the length of line enables you to keep out of reach of his feet, if especially Vicious, and there is no danger, if ordinary care is used, of injuring the Horse.

All of the foregoing fixtures having been provided, and applied according to these instructions, and the ground carefully cleared, and no old wagons, sleds, or other rubbish being near, step backward nearly the full length of the cord and pull upon it, which draws the Horse's head well around to the ring-side, and if the other foot is the one strapped up, which is probably the proper one to fasten up, at least it is the one that old Tamers secure, which throws the weight on the quarter which has no support, and, generally, the Horse will soon make an effort to step, and perhaps to "rear up," struggling to free himself from his terrible bondage—and I have seen them make some noble bounds even upon the three legs, for their freedom—but they are always compelled to yield, coming down upon the single foot for a few times, and finally upon the bandaged knee, and, after a little, to topple over upon the side, much exhausted by the struggles. As soon as he is down it is well to have an assistant who will at once place their foot upon his neck, and keep him down for a few minutes, at the same time you keep the line, or War-Bridle tight in your hand, *i. e.*, as you step up towards, or to him take up the slack of the line, so that he cannot jump up until you choose to let him rise; in the mean time step along his back, and slap his sides, and take hold of his tail and lift it from its clinging position, from time to time, to see if he relaxes his muscles, for when he does, he will allow it to be lifted as limpsey, or limber as a rag. After holding him a short time to the ground, even though he does not yield the point of superiority, but seeks another opportunity of trying his strength with you, let him get up and try it on; and if he steps forward, and if he does not step, give the word of command to go ahead, or "get up," or whatever term you are in the habit of using, then give a sudden pull on the War-Bridle and say "whoa," and if he stops, step up to the side of his shoulders and pat him with the hand, which is as much as to say "that is right," but if he insists upon moving about, give him another "long pull, and a strong pull, and a pull all together," until he comes to the ground again, and proceed as before; finally "laying him down" 3, or 4, or a dozen times, if need be, or until he gives up every point, and lets you Handle him as you choose, then let him get up, let down his foot and caress him, and he will like you better than ever before. And now, if he has ever been skittish, or afraid of anything, as an umbrella, basket, or of noise, etc., have that very thing near at hand, let him feel of it with his nose, or upper lip, having the War-Bridle so you can fetch him up "all standing," "on the double-quick," if need be, *i. e.*, if he is afraid of it still, and shies, or jumps away from it; and pursue this course until he gives up to allow it to be laid upon him, in any shape, or way you choose without caring for its presence, caressing him every time he minds you, or yields any point of his opposition, and punishing him with the War-Bridle every time that he will not be quiet

at the word "whoa." Having familiarized him to any and all articles of which he was known to be afraid, if he is, or ever has been afraid of bands of music, drums, fifes, etc., take an old tin pan, or a toy drum, or fife and allow him to feel of it with his "fingers"—his lip, or nose—then gently blow upon, or beat it, as the case may be, having the War-Bridle at your command so you can punish his mouth, in a moment, if he moves, or shies from it, using the word "whoa" every time you enforce obedience by it, so that he learns, when he hears that word, to expect the yank upon the "Bridle," by which that word, alone, soon Controls the Horse, knowing that if he does not yield, the punishment follows "with a vengeance" that he does not admire; for it must be acknowledged that the War Bridle is severe, yet, as it accomplishes its work in so short a time, and makes such a kind and obedient Horse, it is certainly a justifiable plan to adopt. Of course, in all these movements, as soon as the Horse minds the word of command, he is to be patted and caressed for a moment, which says, "thank you sir," that is right.

Second: To Train to Harness.—Taking it for granted that the Horse has been disposed to kick in Harness, or in some other way has been fractious and irritable, when in Harness. it will now be well to put the Harness upon him, removing the "War-Bridle," and putting on the ordinary headstall and reins, passing the reins, or lines through the thill-straps (usually called fill-straps), in place of through the turrets, as this allows them to drop down along his sides, which gives you Control over his body, so that you can force obedience, by stepping 2. or 3 steps behind the Horse, and as many steps to the right, or left, for it matters not upon which side you begin this movement; now the line being taught, which passes around his leg, or hind quarter, give it a sharp pull, saying "come here sir," this causes him to wheel in the direction which you pull, and as quickly as he has turned as far as the purchase, or leverage on the rein, or line gives you, say "whoa," then immediately step the other way and do the same thing, which turns him the other way, in the same manner—so this 2, or 3 times each way, until he answers quickly, with the "whoa" at each turn, then caress him at the shoulder, neck, etc., and pass the hand over his back and limbs, to show him the confidence you have in him, and he will equal your confidence, "every time." Repeat this 2, or 3 times, a few minutes apart, and he will ever afterwards answer to the side rein as quickly as he does to the "War-Bridle."

Third: To Train to Drive.—When the previous movement has been accomplished, step directly behind the Horse, at a proper distance for driving him, and with snug reins, give him your usual word for "go ahead," and when he makes a few steps forward give a sharp "pull up," with the word "whoa," and when he stops, which he will do quickly, caress him as usual, and try it again, and again, for a few times, caressing every time that he answers to the word, or to the reins.

Fourth: To Train to Back.—Next, then, taking your place behind him, give him the word "back," and if he does not answer to it at once, give him the "sharp pull" on both reins, and as soon as he has made 2 or 3 steps, give him the "whoa," and if he stops quickly caress him, but if he does not stop quickly, give him a sharp touch with the whip, at the same time having the reins tight, so he shall not

jump ahead, but be brought to understand just what you mean for him to do, and to do it readily; then

Fifth: To Drive in Shafts, Breaking of Kicking, Balking, etc.

—If there has ever been the least difficulty in the line of Kicking, or Balking it is best to have prepared a cart, of the hind wheels of an old waggon, so that the axletree, which should be stout, shall come just up to the quarters, or haunches of the Horse. Mortice the shafts through the axle and bolt on a stout cross-bar, a few inches forward of the axle will be all that is necessary, not even any hold-back irons, as you will see it is desired to back the Horse onto the cross-bar, and also to let the cross-bar come upon the Horse in going down any descending ground, or hill.

The cart having been made, and you having also Handled your Horse through all of the foregoing stages of instruction, now hitch him up to the cart, but putting on no hold-back straps, the cart standing near a solid post, step behind the cart, keeping close reins, tell him to "back," pulling gently upon the reins, and just as the cart is about to strike the post, give a firm pull upon the lines so the Horse's haunches shall be held firmly upon the cross-bar, giving the word "whoa," and holding him to it; and if he makes strong efforts to go forward, or to kick, punish his mouth with the bit, by a yank upon the reins if necessary to hold him until he realizes that he is not to be hurt, then ease up the grasp on the lines and allow him to straighten himself upon his feet again, caressing as at first, or even more extensively, passing all around him, rubbing and patting him to satisfy him that no harm is to come to him from this new movement; then, after a little, let him step forward a few steps, and stop him, always with the "whoa," then, holding him firmly, push the cart "upon his heels," and if he stands it well, all right, repeat it several times by pushing forward and pulling back, saying "whoa" and holding firmly upon the "bit" when the cross-bar is about to hit him; but if he does not take it kindly, back him until the axletree strikes the post again, as at first, caressing him at the close of each struggle in which you are the master, and you *must be in all*, otherwise go back to the beginning and "lay him down" again as at first, taking up each stage of the course in regular order, and finally the cart again before you put him out.

And when he will allow the cart to come upon his heels without fear, or struggling, stop and caress him, then take one line from the turret and step back against the wheel on the side of the loose line and give your usual word for starting, no matter whether it be "go ahead," "get up," or whether it be the "cluck" that some people use, but it should *always* be the same, as regular as you say "whoa" to stop him, then he will understand you, and act accordingly. Now when he starts, you keep your position, pulling gently upon the line which causes him to make a short circle around you, this accustoms the horse to the chafing of the shaft against the leg, which will probably, now, not frighten him at all, although he might have kicked on account of it only an hour before. When one round has been made, stop and caress him; then step upon the other side and go over the same ground, for you are just as likely to desire to turn around one way as the other; and after he becomes familiar to these turnings, step behind the cart, both lines being loose, turn him first one way, then the other, the same as when breaking to harness; and finally, after all these motions have become familiar to the Horse, to your entire satis-

faction, step behind the cart, and with a close rein start him off on a straight line, jumping side-wise upon the axletree, and take a course, if any, that is descending, so the cart shall "run against his heels" to see if he will bear it without attempting to run, or in any way showing restlessness under the annoyance, if he does, give a sharp "whoa," and the sharp pull upon the lines so as to hold him firmly to the cross-bar; this will stop him, when he must be turned around and taken back to the post and repeat the process there, until he will allow the cart to come upon his heels with perfect unconcern, caressing every time that the Horse does your bidding, or submits to your requirements of him. If these instructions are carried out with judgment, coolness and decision, you will have a Horse that is thoroughly Broken, and upon which you can depend; but, in all cases of viciousness, I deem it best to repeat the process the next day, and also about one week after that, by which means the Horse will be enabled to perfectly understand what is required of him, and also learn that it is of no use for him to resist you in any of your requirements.

RAISING AND BREAKING THE COLT.

First: The True Method of Raising.—The *True Method*, no doubt to Break a Colt with the least trouble is to Raise him up with you upon terms of intimate sociability, *i. e.* from the time of foaling, begin to pet it, and, if there are children about, to have them do the same thing; and to instruct the children, especially, that they must never throw sticks at the Colt, nor to jump towards it, or make any motions towards it that shall in any way frighten it, but, rather, to be perfectly kind to it, so it shall never fear being injured when anyone approaches it, for the Horse-kind are naturally very timid and fearful of being injured; but, by thus being careful to show the Colt, from the first time it sees you, that kindness and sociability are to govern your actions towards it, it will abandon its characteristic nature, and return kindness for kindness.

Second: The first time the mother is to be hitched up, or ridden, let a small halter, prepared for the purpose, be put upon the Colt, then tied in some convenient manner to the harness, or neck of the mother, where she may be led about a little, at first, which will soon familiarize the Colt to leading, as it will naturally desire to follow the mother; thus, with but very little trouble, the Colt is soon broken to the halter, and to leading, and all annoyance of having the Colt follow some strange Horse, or loose its mother in the confusion of meeting other Horses on the road, to the great annoyance of all concerned. Let also the spirit of kindness pervade your actions towards it through its whole course of Colt-life, and although there will sometime have to be a struggle for the mastery, yet it will be short, and will soon perch on the side of intelligence—the true master. It will be all the better also, even after the Colt is weaned, to occasionally put the halter upon it and lead it about, caressing it also, to keep up the social feeling, never allowing anyone to frighten, or injure it in any manner. But,

Third: To Catch and Halter the Colt.—Supposing the Colt has had the usual "harum-scarum" way of Raising, until it is now 3, or 4 years old, and is afraid to let anyone approach it, taking it for granted that those who have Colts, to Catch and Halter, have also other Horses, I shall suppose that with these, the Colt can be brought into the stable, where with a little gentleness and care, the Halter may soon be put on in the usual manner, when he may be held, or tied by the

side of a well-broken Horse which you can caress, showing the Colt that no injury is to be expected from you, for he will observe every movement you make, and if you are cross and unkind to the Horse, the Colt will more especially expect, and consequently fear the same at your hands. Then, as he will permit, you may caress him and familiarize him to your presence and caresses. And after an hour, or two, you may put on the Handling-Harness and War-Bridle, not yet strapping up the foot, then lead him out and if not wild, or vicious, you may soon proceed to "Lay Him Down," as described under that head, in Handling the Horse; and you may proceed, by degrees, through the whole course, remembering, however, that the Colt has, as yet, no knowledge of the harness, shafts, cart, or any of the movements, consequently has everything to learn; you must, therefore, be very careful in all your movements, and instructions, and not expect a too rapid progress with him. But:

Fourth: I will again suppose that the Colt is wild, and cannot be got into the stable, the door being small, and the stalls taking up much of the room, he is too fearful to enter. In that case throw open the barn doors, take the Horses into the barn, having no machinery upon the floor that would be liable to injure any of them, and if the Colt will not follow in, you will hitch the Horses, or Horse, as the case may be, upon the backside of the floor, then with 2, or 3 assistants gather around him, in the barn-yard, in such a way as to gently force him towards the door, and finally into the barn, when the doors are to be shut, and you may, in most cases, be able to Halter him over the back, or neck of one of the older Horses; then the other Horses will be taken entirely away, that nothing may disturb, or draw off his attention from what you will then be ready to attempt to teach him; and in Handling any Horse it should be away from others, that nothing may disturb or distract them. Again:

Fifth: It may be that you cannot succeed in getting the Halter upon the Colt over the other Horses, then take the other Horses from the barn, through the door into the stable, so as to retain the Colt alone upon the floor, and proceed in the following manner. First, take a very light pole 12 to 15 feet long and have a couple of gimlet holes through it, one close to the lightest end, the other 12 to 15 inches from it, and drive a peg in each hole, allowing them to project a couple of inches, upon one side. Now having a long rope, of halter-size, make a large loop at one end of it, in the form of a neck-halter, and hang this loop upon the two pegs at the end of the pole, the loop being large enough to pass over the Colts head; then take the pole in your hands in such a way that the loop does not slip off, but would slip off readily if you turned the pegs down. Now walk around the barn a little with the pole and halter upon it, carelessly singing, or whistling, as though you was not setting a trap for "Coltie," approaching nearer and nearer to him and finally holding the halter end of the pole towards him, which he will be willing to smell of and examine; and while he is doing this, you must dexterously and quickly pass the loop over his head and turning the pole properly, let it slip off the pegs and drop upon his neck, then an assistant having hold of the long end, you may aid him in tightening the loop by pushing it up towards a knot which had previously been tied at such a point from the end, that it shall not draw so close around his neck as to choke him; and, thus,

you have accomplished all that I have undertaken to tell you in this paragraph—the Colt is Caught, and Haltered. Then:

To Handle the Colt.—You will caress him, and carefully approach along his side until you reach his neck; and in these cases where the Colt is so fearful of you, it is best to have 2, or 3 assistants to stand behind him, so he shall not back out and dodge off, for as yet you are not prepared to pull much on the halter, as the knot was only a make-shift to get the loop over his head; but now you will, as above remarked, approach along his side, caressing as you proceed, having a regular halter in your left hand, pass the right along his neck to the head, preparatory to applying the common halter; but if he holds his head high, as some will, fetch your weight gradually upon the poll, or top of the neck, just back of his ears, and steadily bear down upon his head until he relaxes the muscles of the neck and allows the halter to be put on, then repeat the bearing down upon his neck as many times as he resists it, caressing every time that he yields to your weight, and drops the head, as you will see that this movement is truly in *agreement* with the general principles of "Handling Horses." Now commence your Handling, or Breaking the Colt, by first patting him along the neck and back, and then down the shoulder and leg to the hoof, carefully repeating until he stands quietly through the whole movement, then lean your shoulder against him, low down upon his shoulder, keeping a close halter upon him with your inner hand, then pass the outer, or right hand down to the fetlock and lift the foot from the ground, just a little, putting it down immediately, and caressing him to satisfy him that no harm is to arise from it; but continue this movement, and hold the foot a little longer, each time until he will allow you to hold it, as if for examination, then take the opposite foot through the same process, letting all of your actions, or movements towards a Colt be doubly cautious and guarded, as compared to what they might be towards an old Horse, for the Colt has *everything* to learn—the old Horse is expected at least to understand that the common movements around him are not to injure him. After the Colt will allow you to raise his feet and hold them a reasonable time, take a light hammer and tap, gently, upon the hoof, when raised, as if shoeing. And after this has been done with the forward feet, you may gently caress along the body to the hind feet and Handle them in the same way, if he will allow it, but if he will not, you must desist this undertaking as to the hind feet until you have applied the War-Bridle and got the control of his *mouth*, after which the Handling of the hind feet may be again taken up and completed with but little trouble; but this much may be taken for granted that the strength of a Horse is greater than that of a man, then it is of but little use for a man to grapple with a Horse on an "even-whiffletree"—the War-Bridle is what gives man the advantage sought—absolute Control over the Horse.

After having Handled the feet on both sides, for Handling on one side does not answer for both, pat him on the hips, and pass the hand down the tail, then lift it steadily and holding it up by pressure until he relaxes the muscles, which he will probably, now, soon do; then repeat, and caress as he gives up any point, the same as you would if the War-Bridle was upon him; and if he will not allow all, or any of these movements to be made without it, the War-Bridle must be put on and managed the same as described under the various heads in HANDLING

Vicious Horses, which see, remembering, however, that greater care and gentleness should be used with the Colt, for he has just "commenced going to school," and if treated kindly, and carefully will become the more *willing* and *obedient* scholar. Supposing, however, that the Colt has allowed you to go through with all of the foregoing movements without any very considerable opposition to make it necessary to have applied the War-Bridle, and that by these movements he has become familiar to your presence, and is not afraid of you, you proceed

To Teach the Colt to Lead.—By putting on the War-Bridle, and placing yourself at a point against his hips, but 6, or 8 feet out, and say "come here," so as to be distinctly understood, giving a sharp pull on the line, or "War-Bridle" which will cause him to step towards you, then say "whoa," and caress him the same as for the Horse, which says to him that he has done all you desired of him. Change from side to side, repeating the movements until he answers the Word of Command without the yank on the cord. He will soon learn your desires and act accordingly, and you must be satisfied with even a step, or two, towards you, and caress him every time he answers to your call. Repeat this from side to side until he will follow anywhere you desire, punishing his mouth, at any time, with a light yank of the War-Bridle, if he stops, or refuses to follow you when you start off and say "come on sir." In this way, if patience, carefulness and perseverance are practiced towards the Colt, he may be Taught to follow anywhere, the same as a dog, and to mind your Word of Command the same as an ox, or a yoke of oxen.

To Bit the Colt.—It being understood that the Colt has been taken, by degrees (a little daily), through all of the movements, or Handlings laid down for the "Vicious Horse," it will be but very little trouble now, to Bit him, as the previous Handlings will have given full and complete *control of his mouth*.

And now if you will look at the "Handling Harness," in Fig. 36, you will see a loop strap represented standing forward from the girth, on the back, for the purpose of passing the "War-Bridle" through, or the reins of a Biting-Bridle, as you may see fit to use; but by passing the "War-Bridle" through it instead of through the side ring, the loop being in the Colts mouth of course, you may either stand in front of the Colt, or at his withers, or shoulders, as you find best, and draw gently but firmly upon the cord for 2, or 3 minutes, for he will soon yield a graceful curve of the neck to the demand of either "Bridle," then ease on the rein, or cord, and caress as in other movements; Repeat a few times, a day, or two, apart, will enable the Colt to fully understand all that the "Biting" will Teach him.

Tricks—To Teach to Horses.—There being very many people who take such an interest in the Horse as to be constantly trying to learn their young Horses to perform various Tricks, I will give them such assistance as will enable them to take advantage of all of the plans that will aid them in making their Horses more tractable, and consequently more valuable. It will require, however, a very considerable amount of patience as well as perseverance. The lessons must also be repeated daily, or twice daily, for some considerable time.

To Teach to Come, or Follow at the Crack of the Whip, or the Word of Command.—Better success will be had in this, if only young Horses are chosen for Teaching. See Fig. 37.

If you have been at all thorough in Teaching your Colt, or young Horse to follow you in your first Handlings, it will be less labor now to Teach him to follow at the Crack of the Whip, having the War-Bridle upon him, you step off a few feet and say "come here sir" at the same time Cracking the whip, lightly, over his hips when he will step forward perhaps more from fear of the Whip than from the Command, but it must be accepted as an answer to the Whip and caress accordingly; yet, if he does not step towards you, but rather seems afraid of the Whip and starts off, the War-Bridle

FIG. 37.



TRICK TRAINING.

is at hand to force obedience and bring him to you, then caress and repeat until he answers for the Crack of the Whip alone, or for the Word of Command to "Come Here Sir." Some of the traveling trainers recommend to reward the Horse for his obedience by giving him a piece of apple, or a few kernels of corn, but I cannot see any special reason for it any more than in any other movement. It is certainly well to learn Horses not to be afraid of the Crack of a Whip, for there is too frequently found upon the streets some showy fop who has no other recommendation of his own to attract the attention of others, except the Crack of his Whip. If this Trick is undertaken, however, it should be known that it will require much patience, as well as perseverance, and it should not be undertaken, nor any other Trick, except it be with a full purpose to carefully mix these compounds—patience and perseverance—and also to use them once, or twice daily until the undertaking is accomplished—otherwise better let them alone; yet all that is necessary to accomplish them is to have the Horse understand you, and he will learn them as well as any other act of obedience, required of him.

These lessons in Teaching to Follow should be made thorough while you have the War-Bridle upon the Horse, so you can punish him if he does not obey, in fact, until he is quite perfect, i. e., obeys every time, before you remove the War-Bridle, for if he turns from you, and you are without the means of restraint, it would be almost, if not quite equal to a failure; and it should be only tried, at first within a close yard so that he cannot, under any circumstances, trot off and leave you. You must also be very careful not to be harsh in the use of the Whip, or in the Word of Command; for cheerful obedience is what you desire; and it can only be obtained by cheerful kindness, many times repeated.

To say "Yes," by Making a Bow.—If sufficient carefulness and patience has been brought to bear upon the Horse in all of the past instructions, he may already be considered about perfect, but yet,

capable of further instruction, in fact, capable of learning almost anything, hence you may learn him to Bow, or say "Yes" in the following manner. Take a pin, standing by the shoulder, scratch him with it, lightly, low down upon the breast, and ask him if he likes apple, or corn, as you have handiest, at the same time bowing yourself, which will indicate to him the natural motion to make by which he would brush off a fly that might be biting him, and when he Bows the head, we him from the other hand, the promised reward, and also caress him as though he had done just your bidding, no matter how slight the indication on his part. Repeat, and continue from day to day, until he will Bow his head when you ask the question, and make the slightest motion towards the breast, without reward.

To Say "No."—This Trick is learned to the Horse by scratching, with the pin high up upon the withers, or side of the shoulder, asking any question to which he would, if he understood you, say "No," at the same time shaking your own head, which he would naturally do to drive away the annoying fly, the slightest motion towards which must be accepted as the answer, and rewarded and caressed accordingly; which, if properly followed, will soon Teach him to Bow his head, thereby saying "Yes," or to shake it gracefully, thereby saying "No," on the slightest movements towards his breast, or his shoulder, by which you have Taught him.

To Teach the Horse to Kiss You.—Although there are a few persons who might say this is "all nonsense," yet most young men who have a nice Colt, desire to have him show off to a good advantage; and I am among those who think that whatever does *no harm*, but does really help to make your Horse more affectionate and kind, is certainly worthy of being brought to bear upon him for that purpose; and this Trick especially, is very simple and easily performed. First Teach him to take a piece of an apple out of your hand, or a few kernels of popped corn, or whatever he will like, gradually carrying the hand nearer and nearer to your own mouth; and if it is a long slice of an apple, you may finally take it between your lips when he will take it with his, at each time caressing him as for obedience in other things, saying "kiss me," at each repetition, he will soon learn to make the motion, or movement, at the Word of Command, although no apple is given him.

"Lying down," "Sitting up," "Shaking hands," and many other Tricks may be learned to almost any Young Horse, according to the *ingenuity, intelligence, patience and kindness* of the instructor, remembering that in no case can you succeed by *brute force*, for the Horse is stronger than man, and if this is to be the means of conquering the Horse, he will "win every time," hence if you give way to anger, or passion, which he will know as quick as you do yourself, you give him the advantage over you; but rather take courage and confidence in your own ability and superiority over the Horse, from your intelligence, and from every success that this intelligence gives you over his *brute force*; remembering that the duty of firmness, in overcoming your own passions, are of equal importance to that of overcoming the obstinacy of your pupil—the Horse—so that if you ever become a successful Horseman, *it will be a mutual benefit*—the Horse will be made kind and docile, and the man will be more kind to everything about him—*objects which are certainly worth more than they cost.*

MISCELLANEOUS RECEIPTS FOR HORSES AND CATTLE.

The word Miscellaneous comes from the Lat. *miscere*, to mix, and signifies that different sorts of things may come under that head, and it is equally applicable to different sizes of type as to different Receipts; and I refer to the meaning of this word here, *because I find myself compelled to use a smaller sized type than I have been using, to enable me to get the large amount of accumulated Miscellaneous Receipts into the six hundred pages which I had allotted to be the size of the Book, by which I could keep the price of the Work within the reach of all*; and as two Receipts, in small type, will go into the space of one in large type, it will be seen that it is for the advantage of the purchaser to have the small type used, notwithstanding old-eyes might prefer the large type, yet I think that most purchasers will agree with me, that, for the *Miscellaneous Receipts*, which do not have to be read so often as the *Medical* part of the Book, it is better to use the small type, and thus give the greater amount of information. Believing this reasoning to be sound and that it will give general satisfaction, I shall proceed accordingly with all of the *Miscellaneous Receipts* coming under the different letters, in the alphabetical arrangement of the Work, and although I have given a very full Treatment for the Diseases of Horses and Cattle, by Dr. Wallington, yet, I deem it best, also, to give the following *Miscellaneous Receipts* upon their Diseases which have been given me by different persons, and collected from other sources.

Big-Leg, Grease-Heel, etc.—Remedy.—Tinct. of cantharides, aqua ammonia, and spirits of turpentine, of each, 2 ozs.; laudanum, and chloroform, of each, 1 oz.; best alcohol, 4 ozs. Mix and keep corked for use.

Wash the legs well with soap-suds, made with soft water; then with a sponge apply the medicine, and repeat in 3, or 4 days, until cured; using at the same time, one of the condition powders, until a better condition of the blood is obtained.

1. Blood, and Bog-Spavin—Remedy.—Blood-Spavin is an enlargement, or leakage from the vein running along the inside of the hock-joint, and a Bog-Spavin is a disease of the synovial-capsule, or oil-sack of the same joint. It is fortunate that the same treatment is applicable to both difficulties.

Take iodide of potassium, $\frac{1}{2}$ oz.; oil of hemlock, 1 oz.; oil of wormwood $\frac{1}{2}$ oz.; petroleum, or oil of stone, 1 oz.; alcohol, 4 ozs.; spirits of turpentine, $1\frac{1}{2}$ ozs.; tinct. of cantharides, 1 oz.

Make half a pailful of suds with soft soap, if you have it, using warm water, into which put 1 pt. to 1 qt. of chamber-lye, and if this is a week, or two old, it is all the better. Wash and soak the parts well with this suds for 15 to 20 minutes to cleanse the parts and open the pores of the skin; then rub on freely of the medicine, and repeat the same every other day until the soft enlargement is absorbed, or gone. Use the suds with the urine at each application of the medicine.

This will be found valuable on enlarged sinews, or wind-galls, or any soft blemish upon any part of the Horse.

2. Another.—Wash the soft enlargements with the suds as in No. 2, then apply the tinct. of iodine twice daily for 2, or 3 days, or until it gets a little sore; then continue the washing, drying the parts well with a dry cloth and rub on an ointment made by rubbing 30 grs., of the red iodide of mercury with any simple ointment, 1 oz., or with the same amount of lard.

3. Another.—Soft soap and salt, equal parts, are said to have cured Bog-Spavins and curb when just coming on.

Bone Spavin; to Cure the Lameness.—Take salt peter $\frac{1}{2}$ lb., and alcohol, 1 pt.

Pulverize the saltpeter and put into the alcohol, and when it is dissolved it is ready for use.

Apply daily heating it into the enlargement for a week. The Horse will suffer considerable pain and probably hold up the leg, and groan; for notwithstanding you would suppose this a very mild medicine, yet it is said to kill the bone enlargement, which causes considerable pain in the parts, but that will satisfy you of the value of persevering with the medicine.

This would be found a valuable remedy in chronic inflammatory rheumatism of persons in doses of a tea-spoonful once in 3, or 4 hours, diluted with a little water. If it should cause griping lessen the dose, or increase the time between them.

1. Colic, Lung Fever, Inflammation of the Bowels, Lungs, Stomach, etc.—With the exception of Colic arising from long driving, then feeding and giving water too quickly; the following medicine will be found very safe and effective in all of the above mentioned difficulties:

Tinct. of veratrum viride, and laudanum, of each, 1 oz. Mix and bottle for use.

Dose.—Two-thirds of a table-spoonful may be given, in a little warm water, and repeat every hour for 4 to 6 hours. Then 2 hours after the last dose, give castor-oil, and raw linseed-oil, of each, $\frac{1}{2}$ pt., mixed, warm.

Feed only soft, mild feed, as bran-mash, for 2, or 3 days, to give time for the organs to gain strength. Bathing the legs from a bucket of hot water will also be valuable. If the urine is scanty give sweet spirits of niter, 2 ozs., with oil of juniper, 1 oz., at 2 doses, in warm water.

2. Another.—Simple Colic from over-feed, I have found ess. of peppermint, 2 ozs., in $\frac{1}{4}$ pt. of warm water a perfect cure.

In a case where a Horse had been driven 60 miles, from morning to 4 o'clock p. m., and only fed at the end of 50 miles, then watered and driven, on the other 10 miles, and put up in my barn, while I was in the Russel House, at Sauk Rapids, Minn., I gave the above, and in 20 minutes you could smell peppermint all over the yard—a perfect cure. The Horse remained in the stable for 3 days while the gentleman went down to St. Paul to purchase goods. When he came back the Horse was ready for another drive of 60 miles.

If it should not give relief in 30 minutes, repeat *half* the dose. I made this prescription because I knew it to be good for persons, in doses of a tea-spoonful, for bad cases of Colic—what is good for persons is good for Horses.

3. Another.—In Colic as in other diseases, prevention is better than cure. Colic may be prevented by care in feeding. When green fodder is used, such as the blades and tops of green corn, Colic is common. It is caused by the production of gas in the stomach and intestines from the fermentation of the food, or by permitting the Horse to drink too freely of cold water when tired and exhausted by work. Feed sparingly of green food until the animal has become accustomed to its use. Water often and give little at a time and never either immediately before, or after a feed. If the Horse has been permitted to become very thirsty, give no more than half a pailful at a time; letting 15 minutes elapse between the drinks, until he is satisfied. If notwithstanding all care, he is troubled still with Colic, give him 2 oz. of sweet spirits of niter and 1 oz. of laudanum in $\frac{1}{2}$ a pt. of water. If necessary repeat in $\frac{1}{2}$ an hour, adding 1 oz. tincture of aloes.

Eye Water, for Horses, Cattle, etc.—Sulphate of zinc, 1 dr.; table salt, 1 dr.; laudanum, liquid measure, 1 dr.; rain water, 1 pt.

Mix and shake occasionally until dissolved, and it will be ready for use; keep corked. Apply it with a clean bit of rag 3 times daily. It will be found a good article for a weak, or an inflamed Eye, in any of the domestic animals.

1. Foul in the Feet of Cattle.—Washing out between the hoofs by means of drawing cloths, through between the claws of the Feet, which have been thoroughly wet in suds made with carbolic-soap is one of the most recent cures for Foul Feet of Cattle. It is necessary, however, to keep the Cattle for some little time in dry field, or upon a dry stable floor until much improved, or entirely well. After washing and cleansing, as above, with the carbolic-suds, a mixture of tar and Venice turpentine, equal parts, drawn between the claws in the same way, is considered an excellent application.

2. Another.—Washing with copperas water, 1 oz. to 1 pt. of water, is considered valuable, by some; then an ointment made with copperas, made fine, and sulphur, of each, 1 oz. to lard, 4 ozs. And to give a table-spoonful, each, of sulphur and salt, by putting into meal, daily, for a week, or two, if not sooner well. If the condition of the Cow, or Ox is quite bad, $\frac{1}{4}$ to $\frac{1}{2}$ lb. of salts might be given daily for 2 to 4 days, or until a free cathartic action is produced, then drop it for a week and renew again, if need be. The sulphur and salt may also be given, daily, as above, in the meal, at noon of each day, that the salts are given.

Garget in Cows—Remedies.—This is a disease in the udder of Cows—an inflammation—which causes a thickening and curdy-like appearance of the milk, and sometimes it is also of a bloody appearance. Poke-root was formerly considered a cure; but it has not always done it. A gentleman of our city, upon whom I can depend, had a case of it and fed all the poke-root he could purchase in the city—about $\frac{3}{4}$ lb.—(it is not plentiful in some parts of Michigan), without the least benefit, after which some one told him that:

1. Tinct. of aconite, $\frac{1}{2}$ table-spoonful, at night, given in a little damp ground-feed, would cure it, and upon trial, it proved true.

2. Another.—Dr. Wallington tells me that the iodide of potash will cure it, even when the milk is bloody—for dose and manner of using it see No. 26 in the regular medicines for Horses and Cattle.

3. Beans are also said to cure the disease, first found out by a Cow which had the disease having got to a bean-stack and eaten all she desired—also proved successful since.

Mange Ointment.—Aloes, finely powdered, 1 dr.; spirits of turpentine, 1 oz.; flour of sulphur, 3 ozs.; lard 4 ozs.

Thoroughly mix, and box for use. In mange, or rather itch, or scab, in horses, cattle, sheep, or dogs, this will be found valuable. See description of that disease.

Hoof Ointment.—Freshly churned and unsalted butter, and white, or pine turpentine, of each, $\frac{1}{2}$ lb.; baberry tallow, $\frac{1}{4}$ lb.; verdigris, $\frac{1}{2}$ oz.; oil of origanum, $1\frac{1}{2}$ ozs.

Let the verdigris be finely pulverized, and it is best to buy that which is already pulverized, otherwise the mortar must be covered closely with a cloth, as it is a bad thing to breathe, and it is very hard to pulverize; then melt the tallow, turpentine and butter together, and stir in the verdigris and origanum (marjoram), and keep stirred until cool to prevent a settling of the verdigris.

This green Ointment is valuable for contracted Hoofs, carked Hoofs, cuts, bruises, etc., use it sufficiently often to keep the parts soft.

Sweeny; Certain Cure.—Fresh hen's eggs, 2; best cider vinegar, spirits of turpentine, and alcohol, of each, $\frac{1}{2}$ pt. Beat the eggs, as for cake, and add the vinegar and stir until thoroughly mixed; then add the turpentine and alcohol, and shake well, when it is ready for use.

In applying this liniment, first rub the shoulder well with the bare, or gloved hand, to warm it up, which enables it to absorb more of the liniment; then pour of the shaken mixture into the hand and rub in well, 3, or 4 times, at each application; then with a smooth round stone, a little larger than the fist, rub hard, upon the Sweeny for 3 to 5 minutes, as the Horse will allow you without too much fretting, 3 times daily.

This Receipt was obtained from an esteemed friend living in my own city, who says he has cured many cases with it; and that he will pay \$100 to see a Sweeny that this will not cure in 3 weeks. From the nature of the articles used, and from the amount of friction to be applied, I should expect the shoulder to become very tender, and perhaps, so much so that the Horse would be also very restless under its application, if it did I should apply only once daily. I have very great confidence in it. So I have also in the following, sent me by my only living brother, from Kansas:

Sweeny Liniment.—Alcohol, 1 pt.; aqua ammonia (hartshorn), and camphor gum, of each, 1 oz. Mix, and when the camphor is dissolved it is ready for use. All Liniments should be kept corked.

Wet the shoulder well, with it, then rub with the hand, and stretch the hide well also, with a kind of lifting, or pulling motion, to loosen it from the membrane within, which is one of the causes of the shrinking of the muscles of the shoulder, and then rub well with a round stone, having a smooth surface, applying it every other day—to which he added the following: I once cured a stage-horse with this treatment in 3 weeks and drove him every day, except Sundays. I cured a Horse this Fall, with the same, by only 3 applications.

How these men should have got hold of the *stone* part of the treatment, I have no idea, for, I have never seen it in print, nor have they ever seen each other, and are now about 1,000 miles apart. There would be no *impropriety* in mixing the two Liniments, rather, I know the mixture would be *better* than either *alone*; and either of them, or the mixed, will be found a valuable Liniment for *all strains*, or bruises of Horses, or Cattle, cuts, or calks, etc.; and, I fully believe that no Sweeny can stand before them; and it will be valuable for bathing into the back of Horses, or Cattle, yes, or persons, in kidney difficulties, or weakness of the back.

How to Feed Sulphur to Cattle.—Mix 1 lb. of Sulphur with 6 lbs. of salt, and place the mixture in a box where the Cattle can have access to it. The box should be under shelter so as not to be dissolved by rain and dew. Mr. Asa Bailey says in the *Albany Cultivator*, that he has used this compound of salt and Sulphur twenty years, and has not had a louse, or a tick on his Cattle in that length of time.

1. Washes and Ointments for Wounds.—Soft water, 1 qt.; sulphate of zinc, 1 oz.; common table-salt 1 oz.

Dissolve these articles in the water, bottle and cork for use. For fresh Wounds, cuts, and sores of recent occurrence, applied 3 times daily this will be found very useful; but for virulent ulcers of long standing, use the following:

2. Wash for Ulcers and Old Sores.—Soft water, 1 pt.; sulphate of zinc, same as above, with corrosive sublimate, 1 dr.; muriatic acid, $\frac{1}{2}$ oz.

Dissolve the powders in the water, and slowly add the acid, and bottle for use. Applying 2, or 3 times daily, according to the foulness of the Sores, for a few days; then substitute No. 1, as for fresh wounds, or the following oil, will be found very good, both for cleansing and healing:

3. Oil for Wounds.—Neat's foot oil, $1\frac{1}{2}$ pts.; oil of thyme, $\frac{3}{4}$ oz.; sulphuric acid, $1\frac{1}{4}$ ozs.

Mix the two first in a druggist's mortar; then, little by little, add the acid, stirring until thoroughly mixed, and bottle for use. Especially valuable for bruises in the feet of Cattle, or Horses.

Lacerated Wounds in Horses and Cattle.—To Secure, and Clear Treatment.—Many permanent blemishes which depreciate the value of Horses might be prevented by careful attention as soon as the injury is inflicted. Broken skin on the knee may sometimes, for want of proper Treatment, result in an ugly scar which will reduce the selling value of a Horse one-fourth, or more. In farmers' stables, Horses are often permitted to get loose, and the consequence is that some morning the owner finds one of his animals badly kicked. A Wound made by the sharpened calks of a Horse-shoe in Winter-time is a very ugly looking one, and needs some little surgery to dress so

as to avoid a bad blemish; and yet it may be done by the use of such skill as is at the command of any one who can do up a cut on his own finger. In the first place, whenever an injury is inflicted, it should be attended to at once, or with as little delay as possible. If any dirt is in the Wound, it should be well cleansed with a soft sponge and luke-warm water. Then with a proper needle (a curved surgeon's needle should be used, and should be always on hand) and stout silk twist, pass as many stitches through the edges of the wound as will draw them and hold them together, from side to side. The two ends of the thread of each stitch should be tied into a secure knot after drawing the edges of the wound closely together passing the end of the thread, in the last tie of the knot, through twice. If the edges are ragged, some care must be exercised to bring the corresponding parts into their proper place.

After having cleansed the Wound with the sponge and warm water, it will not be amiss to wet the sponge in the WHITE-OIL and apply to the Wound, before sewing it up, and to wetting with it afterwards, freely, from time to time; or the above Wash, No. 1, may be used, if preferred, or found best upon trial of any case; and in case Wounds do not heal readily, they require something stimulating, like No. 2, above. Or, if preferred in the form of an Ointment, instead of the last:

Take lard, $\frac{1}{4}$ lb.; spirits of turpentine, 1 oz.; blue vitriol (sulphate of copper), $\frac{1}{4}$ oz.; The vitriol should be pulverized very finely then melt the lard and stir in, and stir till cool. Apply once, or twice daily.

Shoulder, and other Strains, Recent Spavins, etc.—Valuable Liniment For.—Best alcohol, 3 ozs.; spirits of turpentine, spirits of hartshorn (aqua ammonia), oil of origanum, olive-oil, and gum camphor, of each, 1 oz.; oils of hemlock and wormwood, of each, $\frac{1}{2}$ oz.; white of 1 egg.

Put all into a bottle, and shake well, applying to the Shoulder Strain, Recent Spavin, etc., about 1 oz. in the day for 3 days—the fourth day, wash with Castile soap-suds, and oil it with lard; and, if after 2, or 3 days more, it appears to be necessary to re-apply, wash off again, before applying it. This Liniment has been successfully used upon Recent Spavins, by rubbing it into the Spavin 3 times daily, working it in well with the thumb and finger, for 2, or 3 days, then with the back of a curry-comb, or something of that character, to thoroughly rub over the enlargement for some little time, which worked out a yellowish thick matter, entirely removing the enlargement.

King of Oils, or Liniment for Horses and Cattle.—Courier's oil, $\frac{1}{2}$ pt.; spirits of turpentine, 4 ozs.; oil of vitriol (sulphuric acid), 2 ozs. Mix the two first together in a crock, or open-mouthed jar, then add a little at a time of the oil of vitriol, otherwise it will cause considerable heat, and possibly break the vessel. When properly mixed, bottle for use.

It is used in wounds which have what is called proud-flesh in them; and to cleanse old sores, to stimulate them to heal up. Apply 2, or 3 times daily, as the case requires.

Wintering Calves—To Make Good Milkers.—Of course, it is not expected, now-a-days, that dairymen will attempt to Winter only such Calves as they hope, or expect will Make Good Milkers. To do this, says the writer of the Ogden Farm Papers, in the *American Agriculturist*, "I commenced, last Fall, a new extravagance" (viz: now read of many "new departures," "and I am satisfied that it pays well. I had hitherto Wintered my young Calves on the same food with the yearlings, and always succeeded in bringing them through the Winter in tolerable condition—quite as good as the average. Last Winter I gave to each from $\frac{1}{2}$ a pt. to 1 pt., a day of whole oats, and I am satisfied that they have grown as fast as they would have done on Summer pasture. The growth too, is of the right character—in the bones. They are tristy and lusty, without being at all fat, and I think have a better chance of becoming copious, bony Cows and Good Milkers, than if they had received only the usual rations. Some of my neighbors feed corn meal to their Calves, and I observe the effect is very different from that of oats, producing less development of bone and more of fat—the opposite of what we want in Milking stock."

Profuse Staling, or Too Free Urination of Horses—Remedy.—The word Staling, in the place of Urination, is only applied to Horses and Cattle, and that more frequently by the English people than by Americans. But more recently instead of meaning a Profuse Urination, it has been taken as referring to a class of cases where, for some reason, saltpeter, rosin, etc., has been given until frequent attempts are made to "tale, or pass the Urine, yet, but very little is passed at a time. These cases, however, are as fully under the control of the following Remedy, as those which are really Too Profuse, or Free:

Powdered opium, $\frac{1}{2}$ oz.; powdered kino and prepared chalk, of each, 1 oz. (The prepared chalk is a fine powder, kept by druggists). Mix with molasses to the consistency for making balls, and make into 6 balls.

Give 1 each morning until all are taken, unless relief is sooner obtained. It is very seldom necessary to use anything of this character for Cattle, if it is, it would be necessary to give it in fluid form.

This is Dr. Wallington's prescription for this difficulty; and the following on the *diphtheritic epidemic*, or "epizoot," as many call it, is also from him, and can be relied upon as safe practice, *i. e.*, he has given me the items and I have clothed them in my own language, the same as in all other parts of the Book, in which he, or others, have assisted me.

"Epizoot," or Horse Epidemic of 1872.—I cannot probably, better close the subject of the diseases of the Horse, and medicines for their Treatment, than with a few words upon the great Epidemic of 1872, now most commonly called the "*Epizoot*." It is simply a cut-short of the word *Epizootic*, which may be considered as having a *double* meaning, or reference, 1st, to an origination of the disease from a very small, or microscopic animal, or parasite, supposed to be floating in the air, and breathed into the nostrils, throat, etc., and 2nd, having reference also to a disease which may prevail among animals, the same as *epidemic* refers to a disease which prevails, at times, among the people. But notwithstanding the prevailing opinion that the disease originates from parasitic animals, or from organic, or animal-like spores of fungi (of mushrooms, or from spongy, or unhealthy growths in animals; Dr. J. J. Woodward, of the United States Army, Washington, and other microscopists, have made very careful examinations, both of the air in stables where there were large numbers of *Epizootic* Horses, and also of the discharge from the nostrils from the same, without being able to detect anything in the least different from what has been found in ordinary cases; but be that as it may, the disease has been upon us during the Fall of '72 and the first month, or two of the Winter; but, at this writing Feb 10th, '73, has pretty well passed and left us to gain what knowledge we can from the experiences which Farriers have had with it. As to its *cause* however, it has left us as much in the dark as it found us—It came from the East, making a pretty clean sweep of all the Horses in the large cities, as well as the smaller ones, and the country has not been exempt, and for the want of experience, some valuable Horses have fallen a sacrifice to the disease—the Mountain Boy—a \$20,000 Horse of Com. Vanderbilt, was among the number. Rest and quiet, with warm clothing, seems to be an *absolute necessity*, if the Horse is expected to get well. The Commodore, however, thought he knew as well as his Farrier, and drove his Horse out, but returned with pneumonia, (inflammation of the lungs), or perhaps a more correct description would have been, *congestion* of the lungs, which is the course the disease generally takes, if exercised too much, or driven too soon.

Symptoms.—This disease is much like an *influenza*, i. e., the Horse will begin to hang his head, perhaps the coat will be more or less rough and staring, with a dry cough at first, which will increase, and become more loose. The Horse is dull, and does not like to move, which is, of *itself*, a sign that he should not be worked. After a little there will be a discharge of watery mucus from one, or both nostrils; and the membrane of the nose which is at first pale becomes more highly colored; and the discharge becomes thicker, and of a more yellow color, and also greater in quantity. And if the pulse, which at first is low, becomes quickened, the breathing will become labored, and perhaps considerably obstructed; and unless the Horse is taken from his work, and put into the stable, and warmly clothed (mind you warmly clothed to keep him warm, not to stop up every crack in the stable to keep out air, he needs air, and must have air), I repeat, then, *unless he is taken from his work, and put into the stable, and warmly clothed*, the disease which at first is confined to the nostrils, bronchial tubes, etc., will *soon* extend to the lungs, involving the *pleura*—the covering membrane of the lungs—as it generally does in persons, when the Symptoms will follow, and make the success of the treatment a very doubtful matter.

Treatment.—In case the epidemic is in the neighborhood so that it may be judged, by the manifestation of the above symptoms, that the Horse is coming down with the disease, take him from work, to the stable, and, as before remarked, if it is cold weather, clothe him with a warm blanket, and some have even put on a "hood" (the women can tell you the object of a hood, or they could before they took to the jaunty bit of stuff now being only 2, or 3 inches wide on top of the head and coming to a point towards each ear), and also wrapped the legs with woollen cloths, with advantage to the Horse, at least if this blanketing of the legs is not done, they should be well rubbed 2, or 3 times daily, to keep up the circulation, as the feet and legs are liable to become cold; and if they do, to any extent, it would be well to take a bucket of hot water and bathe them thoroughly with it, then rub with dry cloths to absorb the water, continuing the friction until the legs are not only dry, but warm; after which wrap them again until they maintain their natural warmth. But few Horses will eat much, at first, or for some time, perhaps, but they must be furnished with bran-mashes, or boiled oats, in small quantities at a time, and allowed only "chilled-water," that is warmish water—water with the chill taken off.

And with the beginning of the disease, have made the following:

Volatile Liniment.—Aqua ammonia, sweet-oil and linseed-oil, of each, 4 ozs., and spirits of turpentine, 1 oz. Mix, and keep well corked, as it loses its power, by exposure.

This makes a thick Liniment, or kind of opodeldoo, which must be applied freely over the whole neck (under part), from ear to ear, and all down the breast, rubbing it well to the skin, then cover the breast, and the under part of the neck, wherever the Liniment has been applied, with pieces of an old blanket, or such woollen cloths as will cover the parts, being bound on in such a manner as to keep them in place, repeating the process every morning and night, covering the parts, at once, to prevent evaporation, and to keep them warm.

Keep the bowels lax by the use of bran-mashes if the Horse will eat them, with a

change occasionally to scalded oats, to keep them from "loosing heart," as loosing strength is sometimes called; but avoid all harsh medicines, and allow no bleeding as the disease is one of a prostrating character, and strength must be husbanded rather than reduced. In case of costiveness, and as an extra inducement to eat bran-mashes, scalded oats, or scalded barley, a *gill* to a *half-pint* of molasses and a table-spoonful of salt may be put into a feed until a change of the condition of the bowels is brought about.

And should there arise much swelling of the throat, or glands of the neck, the Liniment must not only be used freely, but, the FOUTICING, as directed under that head must take the place of the blankets upon the neck and throat, and the *pectoral powders* No. 6½ must be given twice daily, in the feed.

The nature of this disease is like that of measles, or mumps in persons, that is so far as a cure is concerned—they must run their natural course—and no hurrying of the treatment can hurry the case through. Use *care* and *wait*, is about all that can be done, remembering that if driven too soon, or loaded too heavy, the Horse is pretty sure to die. I will only mention one case in this neighborhood—a gentleman who needed the money for a load of wood, thought he would risk a trial of working his team; it took considerable urging to get them to town, and to get them back—the next morning both Horses were dead, with congestion of the lungs.

The Treatment in DYPHERIA and DISTEMPER, and CONGESTION, or INFLAMMATION OF THE LUNGS would be applicable here.

H. MISCELLANEOUS RECEIPTS. H.

HAIR DYE.—In Three Numbers.—No. 1.—Distilled water, 4 ozs.; alcohol, 1 oz.; and pyro-gallic acid* 1 dr.

The pyro-gallic acid is to be put into the alcohol until dissolved, then the water added, and corked for use.

No. 2.—Aqua ammonia, 1 oz.; distilled water, druggists keep it, 1 oz.; nitrate of silver, 2 drs.

Put the nitrate of silver into the ammonia until dissolved then add, the water and cork for use, and keep in a dark place.

No. 3.—Distilled water, 4 ozs.; sulphuret of potash, ½ oz. Mix and cork, and keep cool. This No. loses its virtue in a month, or two, but it is not expensive.

To Dye the Moustache, (this word comes from the Greek and signifies the upper lip with the hair upon it, like our word scalp, the skin of the head and the hair upon it—too often taken off together, by the Indians) Whiskers, or Hair, be sure they are clean, and free from soap, and only a little damp; then carefully apply No. 1, not getting it upon the skin; and while it is still damp, but somewhat dried, apply No. 2, also avoiding the skin; but, in case any of either No. touches the skin, it is best to have a damp sponge, or a damp cloth and wipe it off immediately. Two, or 3 minutes after No. 2 has been applied all over carefully, apply No. 3 which will "set" the Dye and give it more depth of color, and also make it a more lively and natural black. And if there is any of the silver No. on the skin, at the edges of the Whiskers, or Moustache touch it with the No. 3, when, with a damp sponge, it may be removed. Be careful to take up all of the No. 3 with the damp sponge, or with the damp cloth, otherwise it will give the skin a yellowish-brown appearance from the action of the air upon it when you go out.

Hair Restoratives and Invigorators.—Alcohol, 1 qt.; castor-oil, 3 ozs.; glycerine, and tinct. or liquid bismuth, of each, 1 oz.; tinct. of arnica, 2 ozs.; oils of lavender, and bergamot, and tinct. of cantharides, of each, ¼ oz.

First put the lavender and bergamot to the alcohol, then the castor-oil and shake well for a little, after which add the other articles. Shake when used. A Detroit, Mich. barber has made extensive use of this to Restore the Hair, and to Invigorate the scalp, and for a Hair dressing. It is best to brush the head well before using, and use it 2, or 3 times a week, as needed. If this is not to be used as a dressing, but only as an Invigorator, an additional ¼ oz. of the tinct. of cantharides will improve it.

2. Another.—The most simple and pleasant article which I have ever used to Invigorate the scalp, to remove dandruff, and to prevent its return, is alcohol, 1 pt.; camphor gum, 2 ozs.

Apply, daily, by means of a piece of sponge, for a month, or until the head is clean and free from dandruff; then once, or twice a week, only, will keep it clean and healthy.

3. Another.—Take alcohol of the best quality, 1 pt.; rain, or distilled water, 1 pt., aqua ammonia, 1 oz. Mix. Wet the head thoroughly and rub it well to the roots of the Hair once daily.

A gentleman of this city, now having a good head of Hair, who was once as bald as his hand, and supposed it would always remain so, produced the change by the use of this article.

4. Hair Restorative—French.—Most "Hair Restoratives" contain some prep-

*Pyro-gallic acid gives a power to prevent crocking, or staining shirt collars, bosoms etc, with which the Whiskers come in constant contact, or, in other words it "sets" the Dye and makes it far the best in use—nothing superior to it—it matters not when applied, night, or day, dark, or sunny, weather, it is all the same—our best barbers use it, now, altogether.

aration of lead, which has proved a *very dangerous* thing even in Hair preparations, causing a loss of the use of various muscles (paralysis), as of the eyelids, etc., and even leading to *insanity*. It is a subject which has recently undergone a thorough investigation, in the city of New York, fully establishing the fact that no preparation of lead should ever enter into the Hair Restoratives, nor be used for the Hair at all. The following Restorative is from a celebrated French chemist and perfumer who has taken up his residence in London, Eng., *Septimus Piesse*, and in cases of premature baldness from illness, or from a lack of nourishment, from the system, will be found reliable. See his explanations in connection with the POMADE RESTORATIVE—FRENCH, below:

"Take elderflower-water, and sherry wine, of each $\frac{1}{2}$ pt.; tinct. of arnica, $\frac{1}{4}$ oz.; strong water of ammonia, 1 dr. Mix and apply to the head every night, with a soft sponge, and wash the head also, twice a week, thoroughly, with tepid rain water. Use only soft brushes on the head while the young hair is coming out.

6. Another.—A very nice article of Hair Restorative and Dressing is made as follows: Rain water, 1 pt.; bay-rum, $\frac{1}{2}$ pt.; aqua ammonia, 1 oz.; glycerine, $\frac{1}{4}$ oz. Mix, bottle, and keep corked.

The glycerine gives it a glossiness, while the ammonia and bay-rum stimulates the surface to a healthy action.

Hair Tonic.—Tinct. of cantharides, 2 drs.; quinine, $\frac{1}{2}$ dr.; muriate of ammonia, 2 scr.; glycerine, cologne, and distilled water, of each, 4 ozs.

When there is any irritation of the scalp, this has been a favorite prescription with one of our best physicians, for some time, and will be found very satisfactory as a stimulant, or Tonic, to the scalp while at the same time it acts as a Hair dressing.

2. Another.—Glycerine and Bay-Rum*, of each, 1 oz.; tinct. of cantharides, $\frac{1}{2}$ oz.; aqua ammonia, $\frac{1}{4}$ oz.; rose-water, $\frac{1}{2}$ pt.

The use and frequency of application for any of these Hair preparations are too well known to require any special instructions.

Mrs. Dr. — Hair Dressing.—Castor-oil, 4 ozs.; oil of bitter almonds, and tinct. of cantharides, of each, 1 oz.; oil of bergamot, $\frac{1}{2}$ dr.; alcohol, 10 ozs.

1. Pomade For the Hair—Very Nice.—Castor-oil, 6 $\frac{1}{2}$ pts.; deodorized alcohol, 3 $\frac{1}{2}$ pts.; spermaceti, 1 $\frac{3}{4}$ lbs.; oil of cinnamon $\frac{3}{4}$ oz.; bergamot and lemon grass, of each, 2 ozs.; oils of almonds, nutmeg and lavender, of each, $\frac{1}{2}$ oz.; oil of citronella, 2 ozs.

Melt the spermaceti in the castor-oil; then, having added the other oils to the alcohol, add these also. Have your Pomade, or large mouthed bottles, clean, warm, and dry, fill them while the mixture is warm, and set where they will not cool too quickly. Families can make one-sixth the amount. It will be found a very pleasant Pomade.

2. Prof. Proctor's Pomade.—White wax, 1 $\frac{1}{2}$ ozs.; pure glycerine, 2 fl. ozs.; castor-oil, 12 ozs.; oil of lemon, 5 drs.; oil of bergamot, 2 drs.; oil of lavender, water and alcohol, of each, 1 dr.; oil of cloves, 10 drops; annatto, 10 grs.

By moderate heat dissolve the wax in one-fourth of the castor-oil, and rub it up with the remainder of the oil and glycerine till it is quite cool; then add the volatile oils. Lastly rub the annatto in the water till smoothly suspended; then add the alcohol, and stir this coloring into the Pomade until it is evenly mixed. Use the best castor-oil, and as little heat as possible, for too much heat brings out the smell, of the oil.—*American Journal of Pharmacy*.

3. Pomade Restorative—French.—Almond oil, $\frac{1}{4}$ lb.; white wax, $\frac{1}{2}$ oz.; clarified lard, 3 ozs.; liquid ammonia, 2 fl. drs.; otto, or oil of lavender and cloves, of each, 1 dr. Place the oil, wax, and lard in a jar and set into boiling water until the wax is melted; then remove, and when nearly ready to set, or stiffen, stir in the ammonia and perfumes, and put into boxes, or jars for use, covering well. Apply the Pomade at night, only, not using combs, or harsh brushes during the growth of young Hair."

The argument for the use of ammonia is, that it contains nitrogen, which is one of the principle ingredients, or constituents of the Hair horn, and nails, consequently affords nourishment; "as in the immediate neighborhood of the Hair-bulbs" (roots of the Hair), "the blood particles are finer, more numerous and active. It is utterly impossible

*BAY-RUM is an article, of which the people, generally, have but little knowledge, for I have heard the question asked, "what is it?" or "what is it made of?" perhaps more often than of any other article. It is a very fragrant liquor distilled from the leaves of the Bay-tree, a species of laurel, *LAURUS NOBILIS*. It is imported, I think mostly from the West Indies; but probably more often in the form of an oil—Bay-oil—which, before the tariff reduction by the last Congress, paid a duty of \$17.50 per lb. Now it pays 50 cents an oz., or \$8 per lb. The oil at wholesale, in New York is still worth about \$20 per lb. Most of the Bay-Rum, now used in the United States, especially in the West, is made by the use of pure spirit, or PROOF SPIRIT, with about 1 oz. of Bay-oil to 5 gals. Proof spirit is pure alcohol, by weight, 100 parts, to water 103 parts—by measure, 100 of alcohol to 81 and a fraction of water.

The Bay-Rum makes also one of the most fragrant and refreshing articles with which to sponge FEVER PATIENTS, with which I am acquainted; it softens and cools the surface, is grateful to breath into the lungs, soothes the mind, and thus quiets the most irritable patient. It may be kept where the patient can reach the sponge, by which he can press it in the hands, cooling their heated internal surface, sponging off the face, etc., as often as he needs.

LEMON GRASS is a French preparation, which will be found in the large cities, made from a peculiar species of the lemon, having a very superior flavor. Possibly it may sometimes be made from a fragrant grass found in India.

for the animal economy to create Hair out of any oil, because oil is destitute of nitrogen; but if oil, or grease is combined with ammonia which yields nitrogen, then great benefit will be derived from the Pomade, so made; hence, all oils and Pomades, without ammonia, only act as polishers, affording no nourishment."

Sound Common-Sense, as a trial will prove.

Hair Curling Liquid.—Borax, pulverized, 1 oz.; gum Arabic, pulverized, $\frac{1}{4}$ dr.; scalding hot water, 1 pt. Mix and stir until dissolved; then add spirits of camphor, 2 table-spoonful, and bottle.

On retiring, our young ladies, whose straight-locks are an annoyance to them, will moisten the hair with the above, and paper, in the usual style, with much hopes of making a successful "friz," the next morning.

1. Hair Oils.—There are but few people who do not, sometimes, use Oils, or Pomade for the Hair; and those who do use them are willing to have an article costing the least, if it is only good. A cheap and good article is made suitable for a Hair Dressing, when there is no baldness, nor call for a Restorative, by clarifying lard-oil, as follows:

Lard-oil $1\frac{1}{4}$ pts.; alcohol, 2 ozs. Bottle, cork and shake, and shake frequently for 2, or 3 days; then let stand and settle until clear, and pour off from the sediment for use.

This may be flavored with oil of citronella, bergamot, lavender, or rosemary, as preferred, $\frac{1}{2}$ oz.; and if it is desired to give it color, the alkanet root, bruised, $\frac{1}{2}$ an oz. in a bit of muslin and put into the Oil until a light purple shade is produced. Druggists who desire to clarify larger quantities, for sale, will use alcohol, 1 qt. to 10 of lard-oil, observing a similar plan of operation. Tumeric used instead of alkanet gives a yellow shade.

2. Hens Oil is a very fine oil, free from gumminess, and consequently makes an excellent Hair Oil when flavored with oil of citronella, $\frac{1}{4}$ oz.; and bergamot $\frac{1}{4}$ oz. to 1 pt. of the oil. This Receipt is as good as it is short. Other flavoring oils may be used, if preferred.

3. Another—Verbena.—Cologne alcohol, $\frac{1}{2}$ pt., otto, or oil of Verbena, 1 dr.; oils of lavender and bergamot of each 20 drops. Mix.

Pure glycerine extracts the flavor from the leaves of the Verbena, or flowers, and from other fragrant leaves. It is well to set them in a warm place for several days.

Hungary Water; for the Handkerchief.—Septimus Plesse informs us that this preparation takes its name from a queen of Hungary, who, at the age of 75 years, derived freshness and vigor by bathing in it; and he also tells us that clergymen and orators, while speaking would be refreshed by occasionally wiping the face with a handkerchief wetted with these "waters":

"Take alcohol, 1 qt.; oil of English rosemary, $\frac{1}{2}$ oz.; oil of lemon peel, and oil of balm (*melissa*), of each, $\frac{1}{4}$ oz. oil of mint, 7 drops; spirituous ess. of rose, and orange-flowers, of each, $\frac{1}{4}$ pt. Mix well and it is ready for use."

He also gives Shakespeare the credit of knowing the value of rosemary by the following quotation, "There's rosemary, that's for remembrance," claiming that this "key" accounts for the almost universal opinion that all perfumes containing rosemary are "so refreshing."

The rosemary is certainly a very grateful perfume; but my opinion that the chief advantage to the queen of Hungary was from the stimulating and cleansing properties of the alcohol upon the skin. The benefit received by the queen referred to, simply proves to me or rather strengthens me in the position that I have taken in several places in this Work of recommending the use of spongings with bay-rum, camphor made with alcohol, whiskey with cayenne, etc.; and I am now able to add still further personal experience in the use of sponging with the strong camphor made with alcohol, when prostrated with long continued mental labor; I will add, that the stimulation is of an entire different character than that from drinking alcoholic liquors—they stimulate the brain and stomach, causing inflammation of these organs, but upon the surface it stimulates the skin to an increased healthy action. I have no doubt but what the lives of weak and feeble old people may be lengthened, in many cases, years, by a prudent sponging of the surface with alcohol, or other spirits, while to take it internally would shorten their lives to an equal extent.

The following Receipt for cleansing the Hair, or scalp certainly belongs among the Hair preparations, and notwithstanding it commences with an S, I give it a place here:

Shampoo* For Removing Dandruff and Scurf from the Head.—Alcohol, 1 pt.; soft water, 3 pts.; tinct. of cantharides, $\frac{1}{2}$ oz.; carbonate of ammonia, 1 oz.; carbonate of potassa, 1 oz.; oil of bergamot, or oil of lavender, 1 dr.

Put the oils into the alcohol and dissolve the carbonates in the water and mix all, it is used in cases where the Dandruff, and Scurf in the Hair has become so excessive as to fall out, and keep the coat littered with it. Pour on sufficient to wet the Hair completely then with the ends of the fingers, the Dandruff is to be worked up from the scalp thoroughly, to allow the ammonia, alcohol and cantharides, which are valuable correctives

Shampoo, comes from the Hindostan word TSHAMPUA, and literally means to squeeze, or to press; and was formerly applied to the thorough rubbing, squeezing, and rubbing of the skin in the Turkish, or hot-bath, but more recently has been applied to the cleansing of the head with an alkaline mixture of sufficient strength to dissolve the grease in the dandruff, and to wash out the balance as dirt.

and stimulants to the skin, to have their full effect, and thus remove the necessity for so frequent a use of the Shampoo. In washing out it will be important to keep the eyes closed, as it would be rather a strong mixture for their comfort. Use any of the oily Hair Dressings after it, and let it be understood that any person whose condition of health is such that Dandruff forms freely and readily it is important to them to wash the head at least every other day, either with plain water and soap, or with the HAIR RESTORATIVE, No. 3, at least twice a week, until a healthy state of the scalp is obtained, then as often as needed to maintain, or keep it in a healthy condition.

The great importance of having "a beautiful Head of Hair" is my only excuse for giving so much space to this subject, and as a clean Head and a healthy scalp are the sure foundation from which you may expect this desirable result, your attention is especially called to the necessity of a frequent use of the Restorative, No. 3, or of the Shampoo, last given, as you find preferable.

Hair to Remove.—Although it is not best, as a general thing, to Remove Hair from where it naturally grows, yet, if there are any who will do it they will see DEPILATORIES No. 8, under the head of COSMETICS.

HAY-MAKING—When it Should Be Done.—The following sensible advice is from the *Ohio Farmer*, and so perfectly corresponds with the principles of *Common-Sense*, and with *experience* in making good Hay, that they will prove valuable to Hay-Makers:

"Don't dry your Hay too much. Hay may be dried until it is as worthless as straw. As a good coffee-maker would say: "Don't burn your coffee, but brown it, so we say, don't dry your Hay, but cure it. Our good old mothers, who relied upon herb-tea instead of "potheary medicine," gathered their herbs when in blossom, and dried them in the shade. So, this is the philosophy of making good Hay. Cut it in the blossom, and dry it in the shade. As the sugar of the plant is in the stalk, while in blossom, ready to form the seeds. If the Hay is cut earlier, the sugar is not there; and, if cut later, the sugar has been converted partly into woody matter, which cannot be made, again, available as feed, making a hard stalk not relished by stock, and only eaten, upon starvation principles. Hay should be well wilted in the sun; but cured in the cock. It had better, however, be cut too green, than too dry. If on putting into the barn, there should appear to be danger of heating in the mow, put on a little salt. Cattle will like it none the less.

"Heat, light and dry winds, will soon take the starch and sugar, which constitute the goodness of Hay, out of it, and with the addition of showers, render it almost worthless. Grass cured with the least exposure to the drying winds and scorching sunshine, is more nutritious than if longer exposed, no matter how good the weather.

"The true art of Hay-Making, then, consists in cutting the grass when the starch and sugar are most fully developed; and before they are converted into seed and woody fibre; and curing it up to the point when it will answer to put it into the barn, or stack, without heating, and no further."

This is as valuable, in clover, if not more so, as in timothy. The principle of cutting early, with grain holds equally good; not for the purpose of getting a better quality of straw; but for retaining the seed, or grain against "shelling," otherwise, as much is lost, often, as will pay for harvesting.

HEADACHE.—Dr. Gunn, before referred to in this Work, as of Bennett Medical College of Chicago, but who, as I understand, has since gone to the Eclectic College of New York, in speaking of sick Headache, through the *Western Home*, says:

"This distressing complaint, persistent and obstinate as it frequently is when proceeding from a deranged stomach, should be met with a prompt evacuation of that organ. When of a nervous character, we have occasionally found the use of oxide of zinc, in 1, or 2 gr. doses, to be attended with excellent success; but much better than anything else is *bromide of potash*, given in doses of from 6 to 20 grs. 3, or 4 times per day. This agent exerts a most remarkable influence in the control of this agonizing affection. The following is a very convenient preparation:

"Bromide of potash, 2 drs.; fl. ex. of belladonna, $\frac{1}{2}$ dr.; distilled water, 4 ozs. Mix. (Let a druggist mix it.)

"Dose.—Take 1 tea-spoonful every 3, or 4 hours, until relief is obtained."

HEAD-CHEESE.—Head-Cheese has become quite a prominent family dish. A very nice article is prepared as follows:

Let the Hog's Head be cut open, the snout cut off, brains removed, and all sea-y bones removed; then, soak for a day, or so, with salt in the water, after which scrape thoroughly; and hocks and joles may also be boiled with the Heads, unless you choose to salt and smoke them. Boil until very tender; and when cool to allow hands to remove all the bones and chop finely; then warm up with a little of the liquor in which they were boiled, and season highly with salt, pepper, sage, summer savory, or marjoram, as you like best; and put into a strong bag, or what is more common now-a-days, into deep dishes and place a plate and weights upon it until cold. Sliced, and eaten cold, with vinegar, pepper-sauce, or catsup, as preferred, at tea. It keeps several weeks in cold weather.

2. Imitation Head-Cheese, with Beef Flank.—Take Beef Flank (may be cut on to the ribs a little, if they are carefully drawn out when boiled), and boil

very tender, with a little salt in the water; and, as soon as cool enough to handle, sprinkle salt, pepper, sage, or summer savory, etc., as liked best, upon it, being spread out flat; then roll up tightly and tie 3, or 4 cords around the roll, to keep it in place until cold; and keep in a cool place, as for Head-Cheese.

For use, slice across one end, and eat, at tea, as Head-Cheese, from which, unless informed, those who do not know would scarcely distinguish it—the fat and lean streaks strongly resembling it. If boiled sufficiently tender, it is very nice.

HEMORRHAGE.—For Hemorrhage, see BLEEDING.

HERBS.—**The Time to Gather, and Method of Drying.**—The Time to gather Herbs for medicinal use is just as they begin to flower, as they possess the highest degree of medical properties at this time. They should also be Dried in the shade, and not laid so thick as to cause them to mould—if Dried in the sun they become too crisp, the leaves falling off, thereby losing the best part of the plant. When perfectly Dry put them up in paper-bags, or else wrap well in paper to keep from the air, and put away in a dry place.

HICCUGH—Remedy.—Lemon juice has been found superior to any known Remedy for Hiccough, which is a spasmodic breathing, or an attempt to breath, but which is largely prevented by a spasmodic closure of the glottis, or valve-like cover which stands guard at the top of the wind-pipe, or trachea, to carry the food, drink, etc., over it to the gullet, or esophagus, on their way to the stomach. Chloroform will allay it temporarily, but not so permanently as the lemon juice. It may be taken freely; and may be mixed with sugar to make it palatable.

HONEY—To Keep without Crystalization, or Candying.—To Keep Honey all the year round without Crystalizing, or Candying, as it is more commonly called, it is only necessary to place the Honey, which has previously been nicely strained, in a pan, or pail which may be placed inside of another one, putting 2, or 3 bits of wood under the pail containing the Honey to prevent it from burning upon the bottom, then fill the outer one with water and just bring to the boiling point, skimming off the wax and all foam which gathers upon the top. As soon as it comes to the boiling point, remove from the stove, and after a few minutes skim, and pour into jars to cool. Cover tightly and place in a cool cellar. It will pay for the trouble.

Grape Catsup.—Ripe Grapes, with sugar, vinegar cloves, and other spices, boiled until tender, make an excellent relish to eat with cold meat. To be made as other catsup.

The foregoing item turned up too late for an insertion among the G's, and for a trial of it in the time of Grapes, but the thought of so pleasant a relish as I believe may be made from the Grape for the purpose indicated, makes my own mouth water so considerably for an opportunity to try it, that I have thought there might be some others who would also like to give it a test, and hence I give it an insertion in this place, although not in connection with its appropriate letter.

HYDROPHOBIA; or Mad Dog Bite, Certain Remedies.—Mr. Darius S. Wood, of this city, called my attention to his having been, for a long time familiar with the following Remedy for Hydrophobia, he having obtained the Receipt, when a young man (he is now well advanced in life) of a Dr. Soy, of Pa., who was very successful with it; and Mr. Wood has also been successful with it in many cases which have been Bitten, and even badly torn, in 1, or 2 instances, by the Dog, and when other animals had been Bitten by the same Dog and went Mad, one case even where symptoms of Hydrophobia were believed to have begun to manifest themselves.

This gentleman has a brother-in-law, a doctor, in Columbus, Wis., Dr. E. D. Ka-nouse, who has used the same article for a number of years, once sending to Mr. Wood for all of the Remedy he might have on hand, as Mad Dogs had become prevalent in his section, and he had used up all of the Remedy he had. With these introductory remarks I will give the prescription. —

"Take red chick-weed, dry, 1 oz.; strong beer, 1 qt.

"Put into an earthen vessel, and boil on coals until reduced one-half; strain, while hot, through a clean cloth; when luke-warm put into a bottle and cork for use. Use as follows: If the patient is of a strong constitution, the whole may be given at 3 equal draughts, each in the morning. If the patient has already had spasms, give a dose every 6 hours—1 gill at a time—until the whole be given. If the patient is of weak constitution, 1 gill each morning is sufficient. A child 12 years of age, requires but half the quantity of chick-weed, but the whole amount of strong beer. If under 12 years, give in this proportion, always suiting the quantity to the strength and condition of the patient.

Double quantity for a beast, and give all at once.

For the Bite of Snakes bind the chick-weed on the wound. If green, bruise it, and if dry, steep it, before application."

He told me he had cured the Bite of a potato-bug, on a ladies neck, very quickly, after considerable swelling, by bruising a few sprigs of the chick-weed and putting the juice only upon the inflaming Bite.

Also ivy and other vegetable poisons, as from poison-sumac, etc.; but had failed where blisters were raised, in a case of poisoning by the wild-parsnip, and water fern (water-hemlock)—if green, bruise, and if dry, steep as for Snake-Bites.

After having talked with Mr. Wood and received a promise of the foregoing Receipt for my "Second Receipt Book," I received a package of books from Cincinnati, O., which were separately wrapped with "newspapers," one of which was from Georgia, and in which I found the following endorsement of the foregoing Receipt, which, to me, at least, gives great weight to the *chick-weed cure*; and I presume the "Dr. Wm. Story" referred to at the close of the paragraph, should read "Soy" instead of Story; as Dr. Soy, traveled hundreds of miles in answer to calls in this line, and it was while he was on one of these excursions into central N. Y., that Mr. Wood, then a young man, purchased it. At the time of cutting out the Receipt, or the item, I did not think to mark the name of the Georgia paper upon it, as the item was credited, as will be seen, to the Norristown, (Pa.) *Independent*, I am sorry now, that I overlooked that point, for my plan has ever been to give honor, to whom honor is due; but in this case, I plead "guilty." The following is the article referred to:—

2. Hydrophobia.—A Simple but Sure Remedy.—Confirmation.—The Norristown (Pa.) *Independent* says: "In 1819 one Talentine Kittering, of Dauphin county, communicated to the Senate of Pennsylvania *A Sure Remedy for the Bite of any Mad animal*. He said that his ancestors had used it in Germany 250 years ago, and that he always found it to answer the purpose, during a residence of fifty years in the United States. He only publishes it from a motive of humanity. This Remedy consists in the weed called *chick-weed*. It is a Summer plant known to the Germans and Swiss by the name of Gauchheil, Rother, Mayor, or Huhnerdarm. In England it is called Red Pimpernel; and its botanical name is *Angelic Phonicea*. It must be gathered in June, when in full bloom, dried in the shade, and then pulverized. The dose of this for a grown person is a *small tea-spoonful*, or in weight a dr. and a scruple, at once, in beer, or water. For children the dose is the same, yet it must be administered at three different times. In applying, it must be used green, cut into pieces, and mixed in the form of a poultice. For hogs the pulverized weed is made into little balls by mixing it with flour and water. It can also be put on bread and butter, or in honey, molasses, etc. The Rev. Muhlenburg said that in Germany, 30 grs. of this powder are given 4 times a day, the first day, then once a day for the whole week, while at the same time the wound is washed out with a decoction of the weed, and the powder strewn in it. Mr. Kittering said that he in all instances administered but *one* dose, with the most happy results. This is said to be the same Remedy through which the late Doctor Wm. Story" (Soy, I believe, Author) "affected so many cures."

Wright's Universal Pronouncing Dictionary (English), says of the *white chick-weed*, "It is a species of *stellaria*, and affords a remarkable instance of the sleep of plants; for, at night, the leaves approach in pairs, and embrace the tender rudiments of the young shoots. The leaves are cooling and nutritive, and are excellent for persons of a *consumptive* habit. They are useful also for *swelled breads*."

Take the foregoing items, as a whole, and who can doubt the value of the *red chick-weed* as a Remedy for Hydrophobia, or Mad Dog Bites; and the only thing to be regretted is that it is not more extensively cultivated; for in Michigan, so far as I know, none except Mr. Wood are cultivating it, and he on only a small scale; there may be others who have obtained the seed from him. It should be generally introduced into our gardens, as it is believed that the *red* is not a native of the United States, and that the white, or blue which is occasionally seen in fields and roadsides are not of the same value, even if of any value, at all, in Hydrophobia; yet it is possible, that they also may be of some value in such cases.

Prof. John King, M. D., in his *American Dispensary*, speaking of the *red*, says: "It is a beautiful annual trailing plant, growing in fields, roadsides, etc., introduced into this country from Europe. Stem from 6 to 20 inches long, etc. Flowers, opposite, small but beautiful, with scarlet petals" (flower leaves)

"opening at 8 o'clock, A. M., and closing at 2 P. M.; in damp weather not opening at all, etc. In speaking of its history, he says: "It has several names as *red pimpernel*, *poor man's weather glass*, *scarlet pimpernel*, etc. It blossoms from May to Aug. The leaves are the part used" (Mr. Wood uses the stem also, or the plant as a whole); * * * * * The plant appears to possess energetic properties, for according to Lindley, Orfila killed a Dog by making him swallow 3 drs. of the extract; upon examination it was found to have inflamed the mucous membrane of the stomach. Grenier obtained a similar result.

"Properties and uses," on this head he says: "These are not fully known. It was considered an antidote to poison, many years ago, and has, more recently, been employed to prevent the evil results arising from the Bite of a rabid (mad) animal. Its internal use has been advised in mania" (madness, insanity), "epileptic attacks, dropsical affections and other derangements of the nervous system, but it should be employed with caution. It may, however, be used in form of poultice, as a local application to old and ill-conditioned ulcers."

I have made these quotations from the above mentioned valuable work, because I think they are calculated to give confidence in the article for the Bite of a Mad Dog, or other rabid animal, as cats, etc.; and also to show its value in old ulcers, swellings, etc.

If I, or one of my family should be Bitten, I should use the *red chick-weed*, if I could get it, expecting a cure; if I could not get it, I should then use the *turpeth-mineral* given

below; and it spasms finally came on, then, I should try the *mercurial bath*, as practiced in India, reported, next below.

But in all cases, I should first cauterize the Bite with *saleratus*, if at hand, (and if not at hand, then any of the strong acids, or strong vinegar, and if nothing else could be readily got, I would make as strong a lye as I could make, quickly, with wood ashes, and wash the wound with it, to destroy any of the virus (poison) which might remain in the wound. Let no time be lost, however, immediately after the Bite, to wipe the wound with a handkerchief, or hand, and wash it at the first water you come to, on being Bitten, as possibly, by these means, all the virus may be wiped, or washed away; then follow up, however, to make a certainty, the above directions, in cauterizing, so as to make the wound run as long as practicable, to discharge all the poison possible.

Further Testimony.—After having written the foregoing Receipts and remarks on the subject of Hydrophobia, (Providentially, at least, some would say) I took up the American Eclectic Practice of Medicine, by Professors Jones and Sherwood, Vol. II, (recently purchased) and at page 776 I noticed so strong a corroboration of the foregoing treatment, in the history of 2 cases, I must be allowed to transcribe them. Prof. Jones says:—

"Very little of a practical character can be said with any great confidence on the subject of Hydrophobia, and I have no time to spare in discussing the various theories connected with it, but refer you" (speaking in his lectures to his students in college) "to any respectable author, who will give you the stereotyped theories, some of which are as old as the disease. I cannot, however, permit the present occasion to pass without endeavoring to perpetuate" (continue) "the few practical items in regard to this disease which I have gathered in my experience, and thus put in possession of others, what I have reason to hope and believe may be demonstrated to be a *Remedy for this hitherto most frightful and fatal disorder*."

"I need scarcely say to you that the whole catalogue of narcotic, stimulant, anti spasmodic, and sedative measures have been rigorously tested in the treatment of this affection, and thus far, the testimony is unanimous to their utter inefficiency in preventing, curing, or relieving Hydrophobia. The only measure on which the most modern authorities rely, is the prophylactic" (to guard against) "influence of excision" (cutting out) "of the wounded part, and that within as short a period after the Bite as possible; of course, the sooner it is done the greater the safety."

Cases.—About 18 years since, I was called into the family of a very intelligent and worthy gentleman, formerly a resident of Pennsylvania. During my earliest acquaintance with him, he informed me, that he had in his garden, a *Remedy*, for Hydrophobia, that he brought the seed with him from his native State, and had continued to raise it in a small bed reserved for that purpose, where he had first planted the seed. He said it went to seed every year, and was thus, spontaneously perpetuated, though annually (yearly), when in blossom, he cut and dried a small bundle of it. He knew the common name, which is "*red chick-weed*," or "*scarlet pimpernel*." I found it to be the *anagallis arvensis*," (this agrees with King), a little annual plant, common in some of the Southern States, as well as in Pa., and resembling the white chick-weed, but having a red, or scarlet blossom. This gentleman informed me that he had known and witnessed its use, in a number of instances, in animals laboring under spasms of the disease, with entire success. (If it will cure animals, may it not be depended upon for persons, even after spasms); "that where he came from, in Pa., every family for miles around kept it; that he had been so directly and credibly informed of its success in a number of cases when administered to the human species, after the disease was developed, as not in the least to doubt the fact, and that he should feel as safe, in case of an attack of Hydrophobia, if he could have this *Remedy* administered, as in any common disease. He described its effects upon the system, when given as directed, and his description was fully verified in two instances in which I afterward applied it."

"A girl was Bitten on the wrist, without any provocation, by a Dog belonging to the family, which immediately left the house and Bit a number of hogs, as he went out of the yard. He passed on to the next farm-house, where he Bit other animals, and so on for several miles before he was killed. All the animals, that he was known to have Bitten had the disease. As it was not known nor suspected that the Dog was Mad till the family learned that he had been shot, it was three days before they became alarmed. I was called to see the patient, and found that the animals' tooth had gone into the naked wrist. I immediately cupped" (cupping is done by scarifying, cutting several little gashes with a lance, or with a spring machine which has several cutters, and applying a cup from which the air is exhausted and it then acts by suction to draw out blood) "and cauterize it" (probably with nitrate of silver), "and gave the *anagallis*, or red chick-weed, according to the directions. Soon after taking the first dose she began to perspire, and continued in a profuse sweat, which had an offensive odor, for the 2, or 3 days that she took the medicine. The wound healed up, and she had no symptoms of Hydrophobia."

"A farmer, 6 miles from town, was Bitten on his leg by his own Dog. His teeth went deeply into the flesh, and made quite a lacerated wound, but it did not bleed. Not then suspecting that the Dog was Mad, he gave the wound no attention at that time. But the next day, the Dog showing symptoms of Madness, was tied up, and by the next

day manifested indubitable" (certain) "evidences of Hydrophobia, got loose, left the premises, and Bit a number of other animals, all of which, so far as was known, went Mad. The third day after the Bite, the farmer came to town to consult me. I cupped and cauterized, as for the other case, and gave him the *anagallis*. I did not see him again for some weeks. But he afterwards informed me, that, while he took the medicine, he perspired so profusely as to wet his clothes as though they had been dipped in water, and the perspiration was exceedingly offensive. *He got well and is still living*, some 10 years having elapsed since the occurrence.

"The medicine is directed to be prepared by boiling about 4 ozs. of the *dried plant* in 2 qts. of strong beer, or ale, until half evaporated, or boiled away" (this amount differs as it will be seen by looking over the *first* Receipts, but I suppose that perhaps some one's experience showed him a necessity for it, I cannot tell, however positively; but would say that as the *dose* given is only half as much in quantity as the first, there would not be so much difference as would at first appear). "Press out the liquid and strain it, and add to the liquid, thus prepared, 2 drs. of laudanum. By an adult, in ordinary cases, the medicine should be taken in half gill doses every morning for 3 mornings. If symptoms of the disease have begun to be manifest, patients must take more, or if the symptoms are fully developed" (spasms begun) "the whole of the preparation may be taken in one day, and made stronger by adding more of the *anagallis*" (I should *utmost* refuse to sanction any addition of the chick-weed to this dose, especially when the strength of 4 ozs. was to be taken in one day, lest the patient might be left like Orilla's and Grenier's dogs,—as referred to above, by King—dead). "Persons Bitten are directed to bathe the wound with the same liquid, and to change their clothing every day while taking the medicine. The dose for children should, of course, be in proportion to their age."

Chloroform has been reported to have cured some cases, I suppose after spasms had set in; but I have not been able to find any cases referred to that would lead any one to put his trust in it, although, if nothing else was at hand, in the spasms, I would use it by inhalation, to anesthesia (unconsciousness), to relieve the patients suffering.

3. HYDROPHOBIA—Mineral Preventive.—Notwithstanding that I have very great confidence in the chick-weed Remedy so long, and so favorably known, yet, as there is so much terror at once felt, upon an individual being Bitten by a Mad Dog, and as there will be times and places where that cannot be obtained, I feel compelled to give all the different items of information on the subject which have come to my knowledge, upon which there is any reasonable ground to hope for relief. The following was first published by the Elizabethtown (N. J.) *Post*. It is as follows:

"Some 3 years ago we published in the *Post*, a Remedy for that terrible disease, but it seems credence was not given to our statement, for it was never copied to our knowledge. Yet, there are still living, many evidences of its efficiency. It was first prescribed on a consultation of 3 physicians for an individual who had been Bitten and badly torn by a Dog known to be Mad, and, we believe, after the individual had 1, or 2 spasms of Hydrophobia. The patient was cured and lived many years. Of the 3 physicians, but 1 still survives, a man of nearly 85 years, and he has had occasion to prescribe the same Remedy, during a long term of 50 years' practice, for other persons Bitten by *rabid animals*, and *always* with success. The last time was within our memory, between the years 1820 and 1824, we believe, when several children in the South part of Chesterfield, or the North part of Willsborough, in this county, were Bitten by a Cat. Animals were Bitten by the same Cat, and went Mad and died. We know not if any of the individuals Bitten are still living in that neighborhood, but there are, undoubtedly, others who will remember the circumstances. A Remedy so well-known to have been proved a cure, should be known to the medical profession, and to the world; and we, *once more*, publish it, hoping that many others may imbibe a portion of the faith we, ourselves, have in it; and again prove its efficacy, should an occasion, unfortunately, occur:

"Keep the sore running, or discharging matter, as long as possible by dusting powdered verdigris into the wound, and give 1 gr. of *mineral turpeth** at a dose 3 times in the day, in a little dry sugar, rubbed very fine, and washed down with warm tea, or warm water, until the mouth is slightly affected with the mercury, then stop until all the appearances of the affection in the mouth have disappeared; then repeat the course in the same way. Repeat the courses 3, or 4 times in 6 weeks, when, I consider the patient out of danger."

May not this, and the case from Northern India, be now put together as quite probable cases. I have no doubt of the facts as stated in each case. The editor of the *Post* was so certain of the importance of the facts as he had stated them, above, that he sent a marked copy of his paper to the *Scientific American*, calling, thereby, especial attention to the article, and it is from this paper, of Jan. 19, 1856, that I obtained it, with the remark that "any Remedy for this terrible disease should be hailed as a great blessing," and I would add to that remark of the *Scientific American*, I believe it has pub-

* "*Mineral Turpeth*" as above called, but more properly, *turpeth-mineral*, is a yellow-salt containing 3 parts, or equivalents, of the protoxide of mercury and 1 of sulphuric acid, and has been used as an emetic, but more properly as a paint. (Protoxide is 1 equivalent of oxygen with 1 of the metal, with which it is combined, in this case, with the mercury, from which calomel has been too abundantly made.)

lished more reliable, practical facts, than any half-dozen other papers published in the United States.

4. Hydrophobia Cure, from Northern India, and Certain other Preventives.—A new Remedy for this most distressing of maladies, comes from North ern India, and is attested by the medical officer at the Hooshiarpur Charitable Dispensary:

"The patient, on admission, was suffering from violent and frequent spasms. He was tied onto a chair, surrounded with blankets, leaving the head free, a large vessel of boiling water was placed under him, and a mixture of *equal parts of mercury and sulphur* well rubbed together were placed in a piece of broken chatty" (I suppose chatty means a small earthen dish) "over a charcoal fire and put alongside of the vessel of boiling water; 15 grs. of calomel were given at once and 5 grs. repeated every hour, the mercurial vapor bath being kept up till all symptoms subsided. In about 4 hours the man was perfectly calm and free from bad symptoms: he was removed from the chair and placed on a bed. The after treatment was simply tonics, nourishing food, and gargles, etc., to remove the salivation. On the 13th he was discharged cured."—*Scientific American*, July 15, 1868.

If calomel can now come in and occasionally save a life, when, and where the vegetable articles cannot be obtained, death being almost certain without, it ought to be given full credit, to endeavor in some small degree at least, to atone for the thousands, I might, no doubt, say millions of deaths which has been caused by its use. I would certainly use it in this case, and be as quick about it as possible too, for, after an attack of spasms; medical men have considered it absolutely incurable after the spasms have set in, and have attributed what were, in some cases considered cures before these symptoms had commenced to the fact, that only about 1 in 25 cases of Bites from Rabid animals would ever have the disease, notwithstanding this, however, they have always been willing to cut out or cauterize all cases coming to their knowledge.

5. Hydrophobia to Prevent.—*The Leeds Times* (England) says that "the nitrate of silver rubbed into the wound, made by the teeth of a Mad Dog, will certainly cure Hydrophobia, or Prevent all injurious consequences from it. It should be applied as soon after the accident as may be. In six weeks the virus is disseminated through the whole system and then hope is gone. Youatt says he has been Bitten eight, or ten times, and always cured himself by this means."

Youatt, however, recommends the crystals to be used in place of the stick.

Hydrophobia Cure, as Practiced in Tonquin and Cochín China.—*The Presse Medicale Belge* states on the authority of Father Legrand de la Lisay, one of the oldest and most venerable missionaries in those countries, that, there, Hydrophobia is cured with complete success by *boiling* a handful of the leaves of the *datura stramonium* (thorn-apple, or gimpson, as some call it), "in a liter of water" ("a liter is 1 $\frac{3}{4}$ pts.") until reduced one-half, and then administering the potion to the patient all at one time. A violent paroxysm of rage ensues, which lasts but a short time, and the patient is cured in 24 hours. He speaks from a number of successful trials. This means, of course, after the spasms have commenced. There certainly could no harm arise, that is, without relief, death is certain.

These leaves made up into cigars, and smoked, have been recommended in asthma. **Cure of Hydrophobia.—After Spasms had Commenced.**—Dr. Alford, at Flint, Mich., has Cured a case of Hydrophobia after the Spasms had Commenced. The disease did not make its appearance until 8 months after the patient was Bitten. The treatment was this: Sulphate of morphia, 1 gr. was injected subcutaneously (under the skin) "every 4 hours, and $\frac{1}{2}$ a dr. of powdered castor given internally, in sirup, at the same time, Chloroform was also inhaled in small quantities. In about half an hour, sleep occurred, and continued over an hour. Convulsions then recurred, and continued, with intervals of variation, for about 12 hours, when they entirely ceased. Vomiting and great prostration followed, but the patient ultimately recovered. The excessive prostration was counteracted by wrapping the patient in a woollen blanket moistened with a warm solution of muriate of ammonia, 20 grs. to the oz.

Dr. Alford states that he had another successful case of Cure of Hydrophobia 8 years ago.—*Scientific American*, May 25, '72.

INDIGESTION.—See **DYSPEPSIA.**

INFLAMMATORY DISEASES.—**Inflammation of the Lungs and Pleurisy.**—By turning to, and reading the anatomy, or description of the Lungs and Pleura, those who are not already familiar with their structure, and arrangement, will obtain a better understanding of their action under disease, and the more readily will it be understood why one cannot be diseased to any considerable extent, without more or less complication, or disturbance of the other; and this will account for my description of them in connection, as it is almost an impossibility for the substance of the Lungs to be Inflamed without its affecting their covering membrane (the *pleura*), and the same if

the membrane is first attacked with disease, the *parenchama* (spongy substance of the Lungs must also be more, or less effected. Then, as all classes of physicians admit that the treatment must be *nearly alike*, I have deemed it best to speak of them together, as they are actually so closely connected in all respects.

The Diagnosis (distinguishing symptoms), as physicians call it, of one disease from the other is this: When the membranous covering of the Lungs is Inflamed, from its closer texture, and *non elastic* nature, the pain is sharp and cutting while from the *elastic* nature of the *parenchama*, or spongy substance of the Lungs, the pain, in Inflammation of these parts, is more obtuse, or dull; but what will *cause* one, may *cause* the other;—then, like man and wife, let them not be put asunder, without a *better* reason than is commonly brought forward for such a purpose.

An Inflammation of such an important organ as the Lungs, it will be readily understood, will materially and severely involve or effect the whole system. The disease, however, by the people, is more frequently called *lung fever*, but physicians understand it to be an Inflammation, and the fever attending, or rather following it, is a *consequence*, or the *effect* of the Inflammation, as we speak of “cause and effect,” the fever is the *effect* of the Inflammation. Without a *free* action of the blood, and air, or breath, through a considerable portion of the Lungs, labor, or exercise, to any considerable extent, cannot be endured, nor life continued, or enjoyed, at least with the sense in which the word *enjoyed* is commonly understood, for even only a very short time. Where no exercise is taken, and, as in case of an Inflammation, or in consumption, life may be *endured*—borne, or suffered—although only a small portion of even only *one* Lung may be left in a healthy condition. The Inflammation is quite frequently confined to one *lobe* of one Lung, and most often to the back, or as physicians call it, the *posterior* lobe; but it may involve the whole Lung and yet be confined to one Lung, in which case it is called *single pneumonia* (from Greek words which signify the Lung, and to breathe); but it may also involve both Lungs, when it is called *double*; and when both Lungs are considerably effected, there is no time to be lost, for a *serious* case may certainly be expected; and the investing, or covering membrane of the Lung, *pleura*, as also explained, may and usually is effected, known by the sharp and cutting pains, as also explained above, in which case it takes the name of *pleuro-pneumonia*, from which and other conceded, or acknowledged facts, the *double* nature, or *combined* nature of the *two* diseases is sufficiently established, not to call for further argument to make out a point so generally known.

Cause.—It is generally understood that *only* what will check perspiration whereby more than the usual quantity of blood is thrown in upon these organs, Cause these diseases; but, violent exercise, and violent exertion in speaking, singing, and also playing on wind instruments, whereby an increased action of the Lungs is brought about, is frequently the Cause of their Inflammation, or if the covering membrane is the weaker part, its distention by the inflation of the Lungs, may Cause the main part of the disease to rest upon that part of the structure.

Symptoms.—A person suffering with *pneumonia* especially if *both* Lungs are affected, to make himself the most comfortable, finds it necessary to lie upon the back, and if only *one* is involved, the position

most generally assumed is partially upon the back, inclining considerably to the well side, by which means the Lung is somewhat relieved from pressure; there will be more or less pain in the effected side; short breaths will be taken, as a full breath increases the pain; a cough, dry at first, but soon more moist, the person raising a thick, sticky mixture of phlegm and blood; and as the disease progresses there will be shorter breathings, greater weakness, and probably delirium, and especially will delirium be likely to take place if the system is in a low condition of health, so that the fever becomes *typhoid* in character (low, from broken down, or poor blood) known as *typhoid pneumonia*, which is the most dangerous type, or form of the disease, and, as will be seen in the following case, calls, especially for stimulants, as brandy, or wine, and the most nourishing and strengthening diet, as *beef-tea*, etc., and if there should be diarrhea, to control it with laudanum, or other appropriate treatment.

But, to be the better understood it may be well to follow the usual custom of writers upon this disease to divide the Symptoms into *Stages*, as follows:

Stages of the Disease.—Most writers upon this disease (*pneumonia*) are in the habit of dividing it into three Stages, or conditions, or degrees of progress when no attempt to control it is made, or as shown also by its progress when the means used for its control do not prove successful.

Auscultation.—In order to be understood in describing the different Stages of Inflammation of the Lungs, it will be necessary to, at least, partially describe the principles of Auscultation, as applied to the study of this disease. The word Auscultation comes from the Latin *Auscultatio*, to hear, starting probably from *auris*, the ear; hence again, *Ausculture*, to listen; understood by physicians to be the method of distinguishing (*diagnosing*) the diseases of the chest by applying the ear, or mostly by applying the *stethoscope* to the chest, or body over any part of the Lungs, by which the practiced ear can tolerably well distinguish the sound in disease from that of health. The stethoscope most commonly used is made of wood. A piece being taken, perhaps 8 to 10 inches long and 2, or 3 inches in diameter and turning it off very nicely, small at one end and large at the other, the inside having been bored through and nicely reamed, or beveled out, the large end of which, being applied to the chest, covers considerable more space than the ear would do, giving a more distinct sound than would be obtained by the ear alone, the ear being applied to the small end, receives the sound very clearly and distinctly. Some physicians use what might be called a *double* stethoscope, made as though the common, or single instrument, as above described, was cut off about one third of the distance from the large end, then a *rubber tube* adjusted upon it, the tube dividing, and made of sufficient length, and of proper form to be applied to both ears, considerably increasing the power of hearing and distinguishing the sound, or *murmur*, as it is called, of the air passing into and out of the Lungs, in health, or disease, by breathing, talking, coughing, blowing, etc. To be able to distinguish a diseased condition of the Lungs by Auscultation, considerable pains must first be taken to learn a healthy sound, by studying the sound in a healthy child, as the sounds of breathing in children are louder and clearer, from the fact that more air enters a child's Lungs, in proportion to their size, than into those of adult, or full-

grown persons. Yet there is a peculiarity in the respiration of children from that of adults called *puerile respiration*, coming, no doubt, from the words *pue*, a low whistling sound as the chirp, or whistle of birds, and from *puer*, a child. But if this same sound should be heard in an adult, it would indicate a diseased, rather than a healthy condition of the Lung.

When only one Lung, or only one lobe of a Lung is Inflamed, or diseased, as in *consumption*, or *Inflammation*, the ear, or stethoscope may be applied to the healthy one then to the diseased, alternating, or changing from one to the other, and moving the instrument along, from time to time, by which means the extent of the diseased portion may be readily made out; but without any of this trouble, the patient can generally tell by the *pain* and difficulty of breathing, how extensive the disease is; but *physicians*, to show their great learning and wisdom, above their fellows, must make these examinations; and of course, those of the *people* who undertake to prescribe for themselves, or families, or their neighbors, must, for their own satisfaction, and to be able to tell when there is any improvement, shown by a *clearer* and *less obstructed* sound, become familiar with the difference between a healthy and a diseased sound. And another advantage of this knowledge is to quiet *intermeddlers*, who are always complaining that a patient does not get along fast enough, hence you must send for the *doctor*, or you will certainly die. With a knowledge that the Lung is "clearing up," as it is called, and the patient feels tolerably comfortable, "send the croaking busybodies to the dogs," the sooner the better.

The Difference in the sounds of health, or disease, if care and attention are given to the subject, may become so familiar as to enable persons of only ordinary ability to make them out with pretty considerable certainty and satisfaction.

When drawing in the breath (inspiration) the sound is considerable louder than the outgoing (expiration), the weaker sound immediately following the louder. As good a point to study this sound as any, is over the region of the *left Lung*, pretty well up, or near the collar-bone (clavicle), about midway from the shoulder to the *sternum*, or breast bone. The *breathing murmurs*, as they are called, or sounds, are caused by the expansion of the air-cells as the breath is drawn in, and by their contraction as the air passes out. And as these air-cells are also sometimes called *vessicles*, the sound is also sometimes called *vesicular murmurs*. Putting the ear, or instrument over the windpipe and larger bronchial tubes, at the front, or near the center of the back (root of the Lungs) the sound will be of a kind of blowing, or hollow character, made by the friction of the air against the large amount of surface, of these large tubes; and as the tissue, or substance of the Lungs are bad conductors of sound, the voice in answering questions, will not be distinctly heard only over these regions; or, at least, if such a sound is heard over other parts it indicates a cavity, or disease. The sound is not exactly alike in all portions of the Lungs; hence, the upper part of the left Lung is chosen for the purpose of familiarizing the unpracticed ear as the sound is more distinctly heard there than at other parts. And the difference may be studied, in a person known to be in health, by changing the ear, or stethoscope from this region to other parts over the Lungs. Instead of the hollow, or blowing sound, as over the large tubes, there will be a *rustling* sound, very much like the rustling of a

new silk dress as the wearer is passing through, or around the house. Flint in his valuable work on the "Respiratory Organs," calls it "*soft, breezy, expansive*, comparing it to the slightly audible breathing heard at a little distance from a person in deep quiet sleep, to the sound produced by a gentle breeze among the branches and leaves of trees." But these sounds may soon be tolerably well understood, as above remarked, by actual test, and will be more fully explained as we proceed with the different *Stages*.

First Stage.—In the commencement, or *first Stage* of Inflammation of the Lungs, there is an over-fullness of blood in the Lung, or Lungs, called by physicians, *congestion*, sometimes also called *engorgement*, or over-crowded with blood. The Lung soon becomes more *red* than usual, *thicker*, or swollen, and more *heavy*; yet, there is not an absolute exclusion of air, but there is less of the *rustling* sound, as in health, when the breath is drawn in, but more of a *cracking* and *snapping*, like the crackling sound from salt thrown upon coals of fire, or a finer sound as if rubbing the ear-locks between the thumb and finger close to the ear, being less distinct as the breath is thrown out than when drawn in, as before remarked.

Second Stage.—If the disease is left to itself, or if the treatment is incorrect, the Inflammation will advance to the *Second Stage* where-in the swelling, or engorgement of the Lung becomes so considerable as to almost, or even absolutely keep out the air, and the Lung becomes *solid*, or *hepatized* (like liver), and appears as if commencing to decay, called "*red softening*." In this Stage there is no *rustling* nor *crackling*, as the air is entirely excluded from the air-cells, but a sort of whistling sound is heard by the air passing in and out of the bronchial tubes. The symptoms will now become more severe, the breathing more difficult, the phlegm more glairy and tenacious, *i. e.*, sticks to whatever it touches, the patient becoming weaker, and perhaps the delirium and muttering, becoming prominent and permanent.

Third Stage.—When the disease runs on to the *Third Stage*, which is almost always fatal, the former, or *red* condition of the Lung becomes *gray* from the presence of matter, now found distributed throughout the whole diseased portion of the Lung; and there is more of a rattling sound from the phlegm having lost its toughness and becoming more fluid, so that what may be raised has a darker look, and is not so tenacious, or sticky as in the previous Stages, by which it may almost always be set down as a certainty that the patient will fast sink, for the time has passed in which there may be a reasonable ground of hope that any treatment may prove successful and especially will this be the case when the disease, from the first, has taken on *typhoid* symptoms, *i. e.*, when weariness, dizziness, pain in the head back, and limbs, with considerable difficulty of breathing, and tightness across the chest, with a short dry cough, have been constant, as the disease advanced; but now these active conditions pass off, and there is left a dull pain across the chest, with the drowsiness, *peculiar to typhoid fever*; the skin is dry and harsh; the bowels swollen and tender, and usually in these cases, with a tendency to diarrhea, the passages being of a yellowish dirty color.

Treatment.—Until a very few years back, and no doubt yet, by many of the *older* physicians of that School, calling themselves "*the regulars*," it has been customary to begin the Treatment, of pneumonia, or Inflammation of the Lungs, as well as in pleurisy with copious

and oft-repeated bleedings, and with tartar emetic, by which, it cannot be denied, very many persons have lost their lives who might just as well have been saved, ah! much better, by simply letting them alone, as the following will fully show.

I am not aware what led to the following experiment of the learned German physician—Deitl—as given by Prof. Scudder, in his “Domestic Medicine,” and by Profs. Jones and Sherwood, in their “American Eclectic Practice,” but the facts are, that in 330 cases of Inflammation of the Lungs, 85 were Treated by *bleeding* alone, 108 by *tartar emetic*, and 189 by *rest and diet* alone; the result: 17, being 20 and 4 tenths per cent, of those who were bled, died; 22, or 20 and 7 tenths per cent, of those Treated with the *tartar emetic* also died; while of those who received *no Treatment* except diet and rest, only 15, or 7 and 4 tenths per cent died. Now when you reflect that there were nearly *twice* as many left to *quiet and rest*, as there were in either of the other plans of Treatment, notwithstanding there were 15 deaths, in this class, yet the plan of *No Treatment* has almost *three* times the advantage, and proves conclusively that not only will a very large proportion of cases of Inflammation of the Lungs get well *without Treatment*, but, just as conclusively proves that “the regulars” *used to kill* (and will now, if they pursue the same course) *one-half* of all those who died under their hands. Dr. Scudder adds:

“This is a *strong* statement but it is a *true* one, and is fully borne out by many of the best writers on medicine.”

Dr. Scudders Treatment of this disease is so *short, plain, and effective*, being also the one which I have adopted with but slight variations; and as it embodies all of the improvements of any essential importance up to this writing, July 1872, I will give it in his own words. He says:

“Have the person bathed with an alkaline wash, to prevent undue heat of the skin, and apply a poultice of bran, or corn meal to the chest, changing it twice a day, keeping the patient well covered. Give internally, tinct. of veratrum, 1 dr.; tinct. of aconite, 20 drops, water, 4 ozs., a tea-spoonful every hour until the fever is *subdued*, and then in smaller doses. On the *third*, or *fourth* day, add a solution of acetate of potash in the usual doses.” See ACETATE OF POTASH, under the head of *Diuretics*.

“The patient’s bowels should be kept regular, but active physis should be avoided. If the cough is *very severe*, give a sufficient dose of opium to give the necessary sleep. Let the patient’s food be light and nutritious. Keep the room *well* ventilated, and everything scrupulously clean.” Thus you have it in a “nut shell.”

The variations which I make are as follows:

In cases where a good nurse, or plenty of help is not to be had to look after the comfort of the patient, instead of the “bran, or corn-meal poultice to the chest,” I use a *bag of hot dry bran*, changing it sufficiently often to *keep it hot*, and occasionally use a *mustard poultice*, having a thin piece of cloth between the poultice and the body, as this means appears, at least, to have as good an effect, and avoids the *wetting* of the bed clothing and the chilly dampness which will arise unless, as above stated, you have *plenty of help and use great care to keep the patient dry and comfortable*.

Also if the case is taken in hand, *at once*, in the commencement of the disease, I take the *sweating* process at first as you will see below,

but if the disease gets some days the *start*, then the "alkaline wash," or spirit sponging, not only "twice a day" but as often as it will add to the comfort of the patient. The temperature of the "wash" must also be governed by the patients feelings—if he wants it *cool*, have it so, if *warm*, make it to his liking. *The tinctures of veratrum, viride and aconite, in all inflammatory diseases and in fevers, I consider almost an absolute necessity.*

I would here remark that I am acquainted with a gentleman, of this city, who was successfully cured of Pleurisy, with but very little other Treatment, than the *bag of hot dry bran*, being kept upon the side for the greater portion of the day, after the case became severe. As often as one became at all cool, another was ready to be applied, as hot as it could be borne, by which means a little perspiration was kept up, until the severity of the pain gave way, and the cure was complete—infect Inflammation, nor Fever can long exist in the system after a gentle perspiration is fully established, and permanently maintained.

Beach considers that there is no alkaline wash equal to that made by leaching ashes in the regular way, as for making soap, then put sufficient of this lye to the water to give it quite a perceptible slippery feeling to the hand; and he recommends it very highly in all fevers, and inflammations when there is any considerable fever, to be used as often as the heat, or dry-harshness of the skin calls for it.

Sal-Soda makes a passable substitute, using of it until the same slippery feeling is obtained. The putting of sufficient ashes into a pail of water and stirring until a good strength is obtained, then straining off, also answers very well.

Typhoid Pneumonia—Comparative History of Two Cases, Showing the Advantage and Necessity of Immediate Attention upon an Attack.—First Case.—In May, 1869 I was taken with *Pneumonia*, or Inflammation of the right Lung, which after a few days, developed strong *typhoid symptoms*; but as my wife was away from home, I neglected to give any especial attention to the approaching disease for 3, or 4 days, until her return, by which time I had been compelled to take the bed, where she found me very weak, and restless; but as we have no other Eclectic physician in the city, I did not consent, until the next morning, for her to "call the doctor," who, on his arrival, stated what was a self-evident fact, "that the case had been too long neglected, but he would do what he could, and hoped for a favorable result." And as but few physicians, when very sick, pretend to prescribe for themselves, I told him to do his best, merely repeating what was the customary Treatment with our class of physicians, and I was very glad to discover that he was considerably familiar with his own ideas of the Treatment of this disease, at least, as seen by his answer, below, upon my requesting him to furnish with his Treatment of my case that I might publish it in the new book. His answer was as follows:

"DR. CHASE—DEAR SIR.—The Treatment in your case of Typhoid Pneumonia, in 1869, consisted of the following remedies:

"At first, small doses of *tinct. of veratrum viride*, with a solution of *acetate of ammonia*, every 2 hours, and small doses of Dovers powders, at bed time, with good diet. Also a strong liniment and mustard plasters to the walls of the chest, which was continued for about 10, or 12 days.

"The Lung now clearing up, counsel was called in, and a large blis-

ter was applied to the back part of the chest, where the disease was the most fully developed, and followed for several days with a poultice of flaxseed-meal, changed as often as it became at all dry, or as the feeling of harshness called for it.

"The tincture of veratrum and solution of acetate of ammonia was now discontinued, and an *emulsion* of turpentine, and tonic doses of quinine, with milk punch, and iced-brandy, and porter with ess. of beef was continued until you was convalescent, sponging the surface, from time to time, with bay-rum, as the heat from the fever demanded, with a few drops of laudanum put into the turpentine emulsion occasionally, to control the tendency to diarrhoea," L.

It will be noticed, above, that the Doctor uses the expression, "The Lung not clearing up:"—This calls for an explanation from me, as he, of course, would not lay any blame upon me for not *allowing* the Lung to "clear up." The facts were these: The Lung was "clearing up" well, so much so that I took it into my head that I was so much better, I could ride out to an iron-spring, and have a drink of the water; but, notwithstanding the Doctor and my own family remonstrated against it, *having always done about as I pleased, and never given up an undertaking which I considered feasible, or practical*, I had the carriage brought out, and with two assistants, I rode to the spring, and had "a drink," but, really, if one of the assistants had not have been sufficiently thoughtful to have taken along the brandy, I should not in any probability, have reached the house again, alive; for the undertaking was too much for the weakened condition of the system; and very soon the disease took on more aggravated symptoms, and called for the more severe Treatment, as the *blistering* would seem to indicate. And as the Doctor, apparently believed my life might be of some use, if saved, he did not abandon the case, notwithstanding my imprudence. Yet, my own sufferings were much increased and double the time was needed to accomplish the cure. I will add, however, in self-justification, that it *appeared* to me that I was fully able to accomplish the undertaking, but the trial *proved me too weak*, and brought on a *relapse*, worse, as relapses usually are, than the disease itself—let all others take warning, to be very careful about any *over-exertion* until well recruited after any disease, unless they feel perfectly willing to suffer the consequences.

I give the Doctor, in this case, not only due credit for his close attention to the disease, but also very great credit for having abandoned the "old foggy" plan of blood-letting, calomel, etc., which used to carry off so many patients suffering under these *inflammatory* diseases. And I will also give credit to very many of *his class* of physicians, for having taken a more sensible view of the matter and for adopting a more *rational* Treatment, especially in this the case, I think, with those who receive their medical education at the University of Michigan; and, better, far better, would it be for the patients, if this improved plan should be adopted by them all—everywhere.

Second Case.—In May of the present year, 1872, I was again attacked by the same disease, upon the same Lung. I was superintending the pulling down of an old kitchen, the accumulating dust from the vegetable and animal matter which had been deposited, for years, in every crevice, no doubt aided, by its being breathed into the Lungs, as the building was torn to pieces, hastened the crisis, or culmination of the disease, and gave it very severe symptoms from the first, the

difficulty of breathing and pain in the Lung being very severe; but, reaching home about noon, being an hour, or two, from the first severity manifested in the attack, *and my wife being at home*, this time, I at once took to the SWEATING PROCESS, as will be seen under that head, putting the feet into a pail of hot water, and the hands into a wash basin of hot water, and the alcohol-lamp burning with its 4 wicks, yet, although a very considerable heat was felt, no perspiration was induced, but rather an increased pain in the head, to relieve which I had cloths wet in cold water and applied to the head; and, to help start the perspiration and reduce the great heat of the surface, I had the whole body and limbs sponged by dipping the sponge into the hot water in the pail, or basin, and drank cold water freely, to quench thirst, and kept up the sweating operation for *more than half an hour* before the perspiration became at all free, and when it did, I still kept it up for half an hour longer, then I had the lamp taken out, and the pail & basin of hot water removed (and by the way, these had had to be replenished several times, with hot water, to keep them hot), I drew the woolen blanket close around me and got into bed, having been a *full hour in the sweating bath*, then had hot flat-irons put to the feet and legs, to keep up the perspiration; and as soon as I got into bed, I took a tea-spoonful of the *veratrum viride* and *aconite mixture*, in hot spearmint tea, every half hour, and had to keep this up four hours before the pain and difficulty of breathing would yield to the Treatment; but at that time, or about 5 o'clock in the evening, it yielded gracefully and fully, as a most submissive child, and did not even make a grumble afterwards, but allowed me to sleep through the night as quietly as I could desire; and on the following morning, aside from the consequent weakness, I was as "good as new."

The veratrum and aconite mixture is made as follows:

Febrifuge.—Tinct. of veratrum viride, 1 dr.; tinct. of aconite, $\frac{1}{2}$ dr.; water 4 ozs. Mix.

Dose.—In ordinary cases a tea-spoonful once an hour would be a full dose; but in a severe attack I use it as often as once in half an hour, until considerable, or absolute relief is obtained.

The turpentine emulsion is made as follows:

Turpentine Emulsion.—Oil of turpentine (also called spirits of turpentine), 2 drs.; gum Arabic, and white sugar, of each, 1 oz.; peppermint-water to make 4 ozs. in all. Mix, by rubbing thoroughly together.

Dose.—One tea-spoonful once in 3 to 4 hours—used in low grades of fever as *typhoid*, *typhoid pneumonia*, etc., where there is a tendency to diarrhea, usually combining laudanum in suitable quantity (5 to 15, or 20 drops) to meet the mildness, or severity of this symptom, with each dose, as given—this is the more recent practice, formerly, it was more customary to put about 1 dr. of laudanum with the above amount when made—the latter course is undoubtedly the preferable plan. In my case the stomach would not retain it after a few days, when mild effervescing soda drinks were substituted for it for a time until the stomach was again quieted. The:

Acetate of Ammonia and veratrum, in Pneumonia, as mentioned in my first case, above, was made by dissolving the carbonate of ammonia in dilute acetic acid as long as it effervesces, then with a tea-spoonful, or two of this solution, put 3 drops of the tinct. of veratrum, prepared as follows, to make a certainty of getting it correct. Take

the tea-spoon, or one of the kind which is to be used and dip 10 tea-spoonsful of water into a phial and drop into it 30 drops of the tinct. of veratrum. Each spoonful, it will be seen, will contain the 3 drops. To be given once in 3 hours. This is done to avoid any mismanagement from the different sizes of tea-spoons found now in use. The veratrum is just as certain, or *specific* in its action of lessening the pulse, as water is certain to run down hill; and it can be used in, even 10 drop doses once an hour, for 2, or 3 hours; but the action is not found so satisfactory as it is to use it in less amounts and less often, then the pulse does not re-bound or rise higher and cause a greater disturbance of the system—the slow, or moderate action, maintained regularly, has been found much the most satisfactory.

N. B. In case of the prostration of the system from an accidental over-dose, let brandy, or any spirits at hand, be used to raise and support the system until its effects pass off. Although in these cases of *typhoid*, or low fever, it is better to give the veratrum in small doses, at intervals of 2, or 3 hours; yet, in the acute cases like mine, of this Spring, we give it more often without any danger, because the severity of pain, and the violence of the disease, both help to expend the strength of the medicine, or in other words require more to overcome the violence of the attack; but if such cases should not yield in 4 to 6 hours, it would be the safer way to lengthen the time between doses to from 1 to 2 hours.

It will be readily seen by the above cases that the safety and speed in curing cases of an attack of Pneumonia, or Pleurisy will very much depend upon giving them *immediate attention*, and *in not going to the iron-spring "for a drink" before you are able to stand the fatigue.*

It is a well known fact that *perspiration and fever, or inflammation, cannot long exist together.* If a moderate perspiration can be established and kept up, I will say, for 12 hours even in some cases of recent occurrence nearly every case, of the above diseases, must subside, for such is a law of our being—then whatever will tend to this end, will improve the condition of the patient. For instance, a patient is suffering with a "raging fever," no matter whether the fever is the main, or *leading* disease, or whether it arises from an *Inflammation*, sponging the patient with moderately cold water, or a mixture of spirits and water, or with a cool lye-mixture, will give very great comfort to the feelings, and if repeated as often as the feelings demand it, it will greatly help to overcome the disease—not *similia similibus curanter*, (that heat cures heat) but rather that coolness and moisture will lessen heat, and heat and dryness will lessen, or overcome cold and dampness. If this is not Common-Sense, then I must acknowledge that all of our *common ideas* of things have come to us through a *mistaken* understanding of things,—“we are yet in our sins”—we know *nothing* as we ought! Can this be possible? No, we receive ideas in a natural way, easily understood by the common people as well as by the most learned. As the old lady said to the infidel who was trying to reason her out of her belief in a Saviour, “I cannot use as many big words as you, but *I know* Jesus is in my heart, and you *cannot* take Him away from me, say what you may.” And so the poor infidel had to leave her in the enjoyment of her blessed Saviour; and so will these Common-Sense principles, applied to disease, leave those who believe in them sufficiently strong to give them a *fair trial*, in the *enjoyment* of good health, or the severity of the disease will soon

be broken by these plans, and the patient placed in a condition to soon *regain* good health.

Then, if a man has a Fever, or an Inflammation which causes a Fever, with a hot, dry, or harsh skin, get up a *perspiration*, or sponge him off, or wash off, as the condition will allow best, or as the conveniences, at hand, will best allow, with cool washes. If he is cold, with a shriveled, or clammy skin, apply heat in such a way as to *restore* and *maintain* a natural condition. If the bowels are *costive*, get a movement by a *cathartic*, or *injection*, as the case demands. If the bowels are *loose*, *restrain*, or *correct* their action with appropriate remedies. If pain in the *head*, or *internal* organs, draw the blood to the feet with *mustard*, or *hot water*, or other means, as general perspiration, or *equalizing the circulation of the blood*, by the best means at hand for the purpose, all of which are explained under their appropriate heads, will be found the *sensible* plan to adopt and to *follow up*, no matter how much might be said to induce you to adopt a different course of action, to accomplish the desired results—stick to a *natural*, and consequently a *sensible* plan, which will afford all the benefit that can be obtained, no matter what may be said to induce a *change* in the Treatment.

INFLAMMATION OF THE STOMACH.—Physicians call this *gastritis*, from a Greek word signifying belly, as the shape of the stomach is a sagging, or bellying form, that is it bags down on the lower side, which to us would appear to make it difficult for the food to pass out, when the proper work of the stomach had been performed upon it, as the orifice, or opening for exit, is almost at the *top* of the sack, as will be seen by referring to the illustration under the head of Anatomy; but the wisdom of the Creator has a reason for it, which, as in many other parts of the system, are past our comprehension—we can only look on with wonder and admiration.

Inflammation of the Stomach is not a very common disease, especially in the *acute* form, but, I have no doubt, in the *chronic* form is *more* common than is generally supposed, in what is believed to be *dyspepsia*, the difficulty, in very many cases, is a *chronic* Inflammation of the Stomach.

Causes.—The more common Causes of an *acute* Inflammation of the Stomach, is from corrosive poisons, *accidentally*, or *intentionally* (succidially) taken into that organ. It may, however, and occasionally does arise from the use of improper medicines, and from over-eating, and from the use, or *abuse* of spirituous liquors, check of perspiration, etc.

Symptoms.—An intense burning heat, and pain, which is increased upon pressure; great thirst also, which, if drink is taken only in very small quantities, will increase the pain and distend, or cause considerable swelling of the Stomach, restlessness and probably vomiting and prostration. The pulse will manifest all of the characteristics of Inflammation, *quickness*, *hardness*, and *fullness*; for the blood recedes from the extremities and centers upon the Stomach, leaving the skin cold and clammy; and the breathing and swallowing will both be difficult in bad cases.

Treatment.—If the Inflammation arises from poisons, they must be removed by an emetic, or neutralized by the proper remedies; then, a mustard plaster to the Stomach, back, etc., and to the feet, as soon as they have been taken from the hot-water bath, into which mustard has been freely stirred. But in ordinary cases, not arising from poisons, physic and emetics must not be resorted to; but injections of

soap-suds may be used, with the addition of any oil at hand, to aid the relief of the bowels. And after the mustard has drawn well, over the Stomach, if the heat is excessive, let cloths be wrung out of cold water and applied over the Stomach, and bits of ice be swallowed, and others held in the mouth and the dissolving water from it spitten out—using slippery-elm water, cold as may be, in very small quantities at a time, as the only drink.

The tincts. of veratrum viride and aconite, in water, as used in fevers, a tea-spoonful every half-hour for 3, or 4 times, then every hour, may be given in the cold elm water, or marshmallow water, if the first is not at hand, until the pulse has become moderate, then continued so as to keep it regular. What will cure Inflammation of any other part will cure it here the only difference being that but little can be introduced into the Stomach without aggravating the disease—the work must be done almost absolutely by what is called a *derivative plan*, that is, to draw the blood away from the Stomach, and keep it away.

Some physicians recommend hot cloths, or cloths wrung out of hot water over the Stomach, after the mustard has done its work; but my experience has been more satisfactory with the cold applications, the relief from the *burning* sensation being almost *instantaneous*, but should it cause more *pain*, I would use the hot—not otherwise.

The nourishment must be of the mildest kind, even for some time, to avoid the concentration of blood in the parts to help the digestion—toast-water, arrow-root gruel, rice-water, etc., or a milk-gruel, half milk and half water, with but very little thickening, and if that thickening was of oat-meal, it would be all the better, sifting out the coarser parts—using only the fine. After all pain and tenderness are removed, then beef-tea, soft-boiled eggs, the white only, chicken broth, free of the fat, etc., may be taken, a little at a time, feeling ones way, so as to avoid anything that causes pain, or even distress, or uneasiness after taking it.

INFLAMMATION OF THE LIVER—(Hepatitis).—The Liver is a *gland*—the largest one in the body. The spelling in the French, Latin and English vary but little, Fr. *glande*, Lat. *glans*, or *glandula*, English *gland* literally meaning a *little acorn*; and as a general thing the glands are small, from the size of a pins head, perhaps, up to that of the Liver, female breast, etc., which are more properly, an *accretion*, (accumulation) of glands combined together proving a perfect whole. They are formed of little cells which secrete, or separate a fluid peculiar to the organ. The breast, or the udder of the cow, secretes *milk*, the Liver secretes *bile*, from the blood which passes through these organs. Most of the glands have *ducts*, or little tubes that empty their secretions into a common receptacle, as the *gall-bladder*, the kidneys into the *bladder*, or common reservoir for the urine, etc., etc.

Until within the last *fifty* years, the Liver has been looked upon as the great disturber of the system, causing nearly all of the diseases that the human family were afflicted with, and hence *calomel* was the great cure all. The Liver must be “*touched*” and nothing could “*touch*” it except *calomel*, and there is not a doubt in my mind but what that touchy article, as the boys say, has “*touched off*” more lives than *war*, *pestilence*, and *famine*, put together. But thanks be to Eclecticism and Homeopathy this destruction of life by large doses of injurious articles, and the abusive use of injurious plans, have largely

been given up. The Homeopaths, by their "little pills" have largely aided in reducing the *size* of doses given, while the Eclectic, with their constant cry against the use of *calomel* and the *lancet*, have been the means of causing an "almost," I would that I could say, "altogether," and entirely abandoning their use. But "blue-pill" still holds too large a sway over the minds of some, and even *calomel* by some of the *older* physicians of the "regular" school is still held onto with a grip that nothing but the *death* of the doctor can ever loosen—for the world, the sooner they wear out, or quit practice from old-age the better it will be. I am glad to state however, that in the neighborhoods of colleges, where these points are fully discussed, they are fast giving way to the "progress of the day."

Inflammation of the Liver, in an *acute*, or violent and severe form, since the general abandonment of the use of *calomel* and *blue-pill*, very seldom occurs; and when it does, the usual remedies for Inflammation will be found sufficient for the case without any *especial* instructions; but a *chronic*, or lingering Inflammation of the Liver will be found more frequent and more difficult of cure, from its usual complication with *dyspepsia*, *gall-stones*, etc., the treatment of which will be found under their own heads. See ERYSIPELAS, for a description of true Inflammation.

Cause.—Probably the most frequent Cause of Chronic Inflammation of the Liver, at the present day, is from over-work of that organ in attempting to produce sufficient gastric juices to enable the over-worked stomach to get rid of what has been for a long time forced upon it, by which *dyspepsia*, or Chronic Inflammation, has been produced.

Symptoms.—There will generally be some pain, slight, or more severe, according to the degree of Inflammation, with a sense of weight, or fullness in the region of the Liver, and there may be some enlargement of the Liver, so that it may be felt under the short ribs of the right side; and sometimes there will be pain, apparently, under one, or both shoulder blades, yellowness of the skin perhaps, with costiveness, or looseness alternating; bad taste in the mouth, in the morning; and the urine will generally deposit considerable sediment on standing awhile; and the whole nervous system will be more, or less deranged, the patient feeling more inclined to sleep than to activity; the skin will be shriveled, and the surface more, or less cold, according to the severity of the difficulty.

Treatment.—In the first place begin with the last symptom mentioned, by "going for the skin," by taking a thorough *sweat*, then every *night* and every *morning*, sponge the *skin*—the whole surface—with the *cayenne* and *whiskey* by which means the surface will be restored to a more comfortable condition, and be enabled to resume its natural functions,—sweating, either *sensible*, or *insensible perspiration*—by which the natural warmth is also restored by the presence of the blood which will now be enabled to circulate *again* in the little capillary, or hair-like vessels with which the skin is perfectly filled, and in which, in health, the blood has a free circulation—this, of itself, will do very much to cure the Inflammation. But:

Second, we will give a full dose of the Liver Pills, and afterwards an occasional dose, in the morning, of the tonic cathartic; and if the pain is considerable, apply a mustard poultice over the Liver, and then follow it with a strengthening plaster to be kept on until relief

is obtained, repeating, modifying and changing the Treatment as different conditions may arise.

In the meantime, the *diet* must be adapted to the condition, or to the digestive powers of the stomach. I have found that milk and water, half-and-half, thickened a little with a spoonful of oat-meal, then eaten with oat-meal mush, Graham-mush, Graham-bread, Graham crackers, or light commor bread, not less than one day old, etc., alternating from one to the other, after 2, or 3 meals of each, making this the principal food for a month, or more; then, as the stomach becomes stronger, and the Liver becomes better, the *dinner* may be a light one of such articles as the family are using, feeling your way, however, so as not to use any article that *ris*es on the stomach, by which it may always be known that an article of food should be taken in *less* quantity, until it does *not* "rise," or otherwise abandon it altogether.

Take all possible out-of-door exercise, but not to fatigue, nor to allow yourself to become over-heated by sun, or exercise; and with *perseverance* and *attention* to differences which arise, most cases will be greatly relieved if not entirely cured; but if months, or years of growing difficulty has been experienced, do not get discouraged because a *few days* does not work a perfect cure.

2. The following explanation of cures in India will probably give some satisfaction to cases which linger on and finally run into *abscess*, or *ulceration*; and the Treatment, will undoubtedly be found as satisfactory here as there. And as the cases given are so numerous, there can be no doubt of the benefit arising from the Treatment followed there, I take the report from the *Eclectic Medical Journal*, of Cincinnati, O., which gives all of the other appropriate credits, and runs as follows:

Chloride of Ammonium a Specific in Hepatitis (Inflammation of the Liver) and Hepatic Abscess (Ulceration of the Liver).
"—According to a paper by Dr. William Stewart in the *Burma Press* and in the *Madras Monthly Journal of Medical Science*, Chloride of Ammonium is a specific (certain cure) in certain Hepatic diseases common in India. He says:

"Since the first of September, 1869, from which time the systematic Treatment of Hepatitis by Chloride of Ammonium first commenced (a period of 9 months), 31 cases of the disease have been Treated, either by myself or the assistant-surgeons of the battalion; and of these 6 were undoubted cases of Abscess of the Liver, presenting the physical signs, the general symptoms, and the well-marked hectic fever diagnostic of the disease under such circumstances. In 4 of the cases the *hectic* fever was severe; in one especially so, and accompanied with excessive wasting of the tissues, and extreme prostration of the vital powers—the patient exhaling the cadaveric" (death-like) "odor at times observed in low and exhausting disease with typhoid symptoms.

"Hepatitis is a disease of this station, and has been the occasion of much mortality here, as elsewhere. From a statement, kindly furnished by Dr. Shelton, Principal Medical Officer, British Medical Service, I find that in the headquarters of the 24th Regiment, Rangoon, and Detachment, Port Blair, out of a total strength of 795 men there were during the year 1868, 32 admissions and 5 deaths from Hepatitis. The post-mortem" (examination after death) "in each instance shows the cause of death to have been Hepatic Abscess.

"During the same period, (1868), in the 21st Fusiliers, at Secunderabad, out of an average strength of 868; there were 86 admissions and 6 deaths from the same cause. The disease was Treated on the usual expectant plan, and with a result not very satisfactory. Compare these figures with those which follow, and see how different is the result obtained under the Treatment by Chloride of Ammonium.

"Since September 1st, 1869, to May 31st, 1870, (a period of 9 months), there have been 31 admissions from Hepatitis at this station, out of an average strength of 608; of these 6 were undoubted cases of Abscess of the Liver, and in several Abscess was strongly suspected. All of the above were successively Treated, without a single death. It is also remarkable that, since the arrival of the battalion at this station at the end of December, 1868, up to May 31st, 1870, embracing a period of 17 months, there have been 58 admissions from Hepatitis and but one death, the fatal termination in this instance furnishing negative proof corroborative of the testimony already adduced of the very great success of the Chloride of Ammonium Treatment, for it is to be observed that the patient died at a period antecedent to the introduction of that practice, that dysentery of a very severe type supervened, uncontrolled by any of the remedies employed, and that the autopsy" (dissecting after death) "revealed the existence of Abscess, which occupied almost the entire Liver, the structure of which was reduced to a mere shell. The large intestine was ulcerated throughout its entire extent, and in places gangrenous.

"In not one of the cases Treated by Chloride of Ammonium was there the slightest tendency to dysentery observed.

"According to the Army Medical Department for 1867, out of a total strength of 56,896 European troops in India, there were, during the year, 3078 admissions from Hepatitis, and 157 deaths. During the same period, 368 were invalided on account of the disease, and 96 were discharged the service at Netley.

"Careful nursing is necessary, as is absolute rest in the recumbent posture, since relapses may occur from so slight a cause as an attempt on the part of the patient to turn in bed. In a further paper on chronic Hepatic Abscess, he asserts that the remedy is equally efficacious. 'In short,' he says, 'I have found it valuable in Hepatic affections of whatever form, whether depending on organic disease or functional derangement. I have also found chronic dysentery, associated with chronic disease of the Liver, yield to a few 20 gr. doses of the Chloride of Ammonium, after ipecacuanha and other remedies had failed; and I have before me notes of the case of a young officer, similarly affected, whose dysentery was checked after a few doses of 8 grs. each. In such cases, from 5 to 20 grs. may be given, *dissolved in two ounces of infusion of cascarrilla*, twice or thrice daily, according to circumstances; and, to cover the saltish taste of the medicine, a little *ex. glycyrrhizæ*" (a very large name for liquorice root) "say 5 grs. may be added to each dose. In passive congestion of the Liver from cardiac disease, I have found a few 20 gr. doses of the medicine to effect a remarkable reduction of the enlarged viscus, and afford great relief to all the symptoms; in fact the *specific*" (certain) "action on the Liver is manifested in almost all the diseases to which that organ is liable."—*Medical Press and Circular*.

The experiments have been sufficient to well establish the value of this article in all cases of disease of the Liver, no matter whether

the disease depends upon organic changes, or upon a change of function, *i. e.*, upon a change of action in the Liver. The proper period for the exhibition of the remedy is after the abatement of acute symptoms, and when diaphoresis " (gentle perspiration) " has been freely established, and it should then be administered in doses of 20 grs., night and morning. About 15 minutes after the Chloride has been taken, a sensation of warmth is experienced at the epigastrium " (stomach) " which gradually spreads over the whole surface of the skin. The patient at the same time says that he feels 'light headed.' In cases of Inflammation of the Liver the pain is either removed to a point higher up than the Liver, or is entirely relieved."

In chronic dysentery the Chloride may be continued for some time after the disappearance of acute symptoms. It is believed that very much benefit may be derived from the use of this article of medicine. It was first introduced by German and French physicians, to take the place of *calomel* and other deobstruent medicines (*i. e.*, such medicines as would have a tendency to open the natural passages of the fluids, as aperients,—those of a gently laxative character, which the old school physicians fully believed, formerly, that nothing could do as well as *calomel*), but the plan of using the Chloride of Ammonium in Inflammation, or abscess of the Liver I think, original with Dr. Stewart, in India, as above mentioned, and I think its reported success abundantly proves, or establishes its value in all of these cases.

INFLAMMATION OF THE BOWELS, (*Enteritis*).—Inflammation of the Bowels, or as the physicians call it, *Enteritis*, is an Inflammation of the inner, or mucous coat of the *small intestines*, while an Inflammation of the *large intestines* is known as **DYSENTERY**, which see, for that disease.

Cause.—Obstinate constipation is probably the most common Cause of Inflammation of the Bowels, but cold and exposure, driving in of measles, or other eruptive diseases, irritating, or indigestible food, are also among the Causes of Inflammation of the Bowels. It may arise also from a strangulated hernia, and soon prove fatal, unless the hernia is relieved.

Symptoms.—There is generally a slight chill at the commencement, with uneasiness about the navel, or umbilical region, which will increase to severe griping and burning as the disease advances; and if the stomach is involved there will be vomiting of bilious, or dark colored matter, high colored urine, quick pulse, more or less fever, and considerable prostration, or loss of strength, belching up wind, etc., are among the prominent Symptoms; pain on pressure in this disease, while in *colic*, pressure relieves the pain, and although there is sometimes a diarrhea, much more commonly there is *obstinate costiveness*, and even no downward passage of wind which causes great distention of the intestines and consequently the whole abdomen is tympanitic, or like a drum head. If this can be overcome, and maintained, there will be but *little* danger in this *dangerous* disease.—How shall it be done?

Treatment.—I answer the above question by saying in a natural way!

There being a concentration of blood upon the small intestines, it has, of course, receded from the surface, and largely from the other organs of the body; and now if it be possible, from the conveniences of the house, I would call for a *full hot-bath*, by which I mean for the

patient to be *fully emerged* or covered with water to the neck, as hot as it can be borne, and to remain in it until at least a considerable relaxation of the system is felt—half an hour, or $\frac{3}{4}$, if need be, putting in hot water from time to time, to keep up the temperature, then placing in bed and keeping up a perspiration by applying heat to the feet and legs,, by means of hot irons, bricks, stones, bottles of hot water, or ears of corn boiled, etc., any of which must be wrapped to prevent burning the patient. But if there is no means at hand for the *full hot water-bath*, then take the next-best thing, the SWEATING in the regular way, which see, with feet and hands in hot water, followed with the other above Treatment to keep up the tendency of blood to the surface; then, as oils will be retained when other cathartics would be rejected, give a full dose of cold-pressed castor-oil, with half as much of the best olive-oil and half a tea-spoonful of spirits of turpentine—repeating this dose every 2, or 3 hours until an operation is obtained; and if 2, or 3 doses does not move the Bowels, still repeat it, and at the same time put half as much of the same into an injection of warm milk, $\frac{1}{2}$ pt. molasses a table-spoonful and salt a table-spoonful, and tinct. of lobelia, 1 tea-spoonful, repeating this injection, and retaining it for a considerable time by folding a piece of cloth and pressing it upon the *anus*, for that purpose, for 10 to 20 minutes at least, each time.

Fomentations of hops, hoarhound, wormwood, tansy, singly, or all combined, boiled in vinegar, and wrung out pretty dry may be applied as soon as the patient returns to the bed, changed sufficiently often to keep them hot; and if in 10, or 15 hours I did not get a movement of the Bowels and a pretty free relaxation of the system, the wind passing off freely, so as to relieve the the distention of the abdomen, increase the tincture of lobelia in the injection and if need be, use a fomentation of a leaf, or two of tobacco, as in LOCKED-JAW, which see, to accomplish this relaxation, for *everything* depends upon this—if no passage of *feces* and *wind*, is obtained, downward, there may, and often is vomitings of the *feces* upward, and the death of the patient is almost certain. In case of too great prostration by the use of lobelia, or tobacco, let spirituous stimulants be given, only in sufficient quantities to revive them, lest the disease be aggravated by their use in too large quantities.

After the Bowels have been moved by the oils, they need only be given once, or twice in the 24 hours to keep them in a laxative state, say, only about half doses at a time of each of the oils, as mentioned at first.

If there is much fever, or a very high pulse, give the veratrum and aconite tinctures, as mentioned under the head of FEVERS, *once an hour*, until these are lessened and perspiration established, then once in 2, or 3 hours to keep up their influence, by aiding in the equalization of the blood, or, as it is called, "the circulation."

The Diet must be of the mildest kind, as the mildest gruels, sago, arrow-root, corn-starch, barley-water, gum-arabic water, etc., at first, and as improvement takes place, mutton broth, chicken broth, and finally beef-tea, and the most tender mutton, or beefsteak, etc.

Tonic infusions, or teas, as the common wild-cherry and poplar barks combined, drank for the common drink in convalescence, will be found to aid in restoring the tone of the Bowels, and the general health. If bitters are used it must only be of those containing but very little spirits—better make the teas daily, to prevent souring, and to avoid

the necessity of spirits as a preservative, which has a tendency as before remarked, to aggravate the difficulty.

In cases which, for a long time, there is no downward passage opened, there is a tendency to mortification, when a poultice of the wild indigo* (*baptisia tinctoria*), the root, leaves, or bark, or all combined, the bark perhaps is the best, will be found one of the greatest preventives of mortification known. In the absence of this a poultice of flaxseed, or flaxseed meal, thickened with finely pulverized charcoal will be valuable for the same purpose.

"A decoction of the bark of the root is an excellent application as a wash, or gargle to all species of ulcers, as a malignant ulcerous sore mouth and throat, mercurial sore mouth" (may the Lord grant that there be but few more of these), "scrofulous, or syphilitic ophthalmia" (sore eyes) "erysipelatous ulcers, gangrenous ulcers, sore nipples, etc.; or it may be made into an ointment for external application. As a poultice, or fomentation it is highly useful in all ulcers, tumors, or inflammations tending to *gangrene*," (mortification). "In fetid" (having a bad smell) "leucorrhea, fetid discharges from the ears, etc., the decoction will be found efficient" (curative) "if injected into the parts with a suitable syringe. The leaves applied in fomentations have discussed" (driven away) "tumors and swellings of the female breast, resembling scirrhus" (cancer).

"Internally, it may be used in the form of a decoction" (tea) "or sirup,, in scarlet and typhus" (typhoid) "fevers, and all cases where there is a tendency to putrescency" (mortification). "It acts powerfully on the glandular and nervous systems, increasing all the glandular secretions, and arousing the *liver* especially to a sound" (healty) "action; and is very efficient in the atonic" (weak, or absence of tone, or strength) "varieties of acute rheumatism and pneumonia, also in dysentery."—*King*.

Inflammation of the minor organs occur so seldom, and their Treatment would be so nearly uniform with that of Erysipelas, and others already described it is not deemed important to follow them further. If *care and attention* has been paid to the foregoing instructions as to the *Treatment of Inflammations, and they are taken in hand at once*, on their approach, but little difficulty will be experienced in this class of diseases—if the circulation is equal, there can be no considerable Inflammation for any length of time in any particular organ.

INFUSIONS.—Physicians generally have a great liking to call things by the names that are the least understood by the people; hence, *infusion* takes the place of *tea*, which everybody would readily understand.

Then an Infusion means simply to make a Tea, of the herb, or article directed, of a suitable strength, so that too large an amount of fluid shall not be needed to obtain the correct, or proper dose in strength. It is well to cover the dish while making any of the Teas, or Infusions, to prevent the evaporation of the volatile, or flavoring

*The Wild Indigo is also called horse-fly weed, rattlebush, yellow broom (from its having a yellow flower), yellow Indigo, etc., etc. It is a small shrub with a branching top much like a broom, flowering in July and August. It is more commonly found on dry grounds, but sometimes grows on damp, or wet land, over most of the U. S.; and the New England people eat the young sprouts, or shoots, as they do those of poke, for greens, or in place of asparagus, but it should not be used after they become of a greenish color, as they are then more drastic, or purgative. Although it is *astringent, purgative, stimulant, and emetic*, as well as *antiseptic* (opposed to putrescency, or mortification), it is principally used for the latter purpose.

parts of the herbs, or plants, and to make only so much at a time as shall be drank before it sours, or spoils.

For sweating purposes the pennyroyal, catnip and hemlock, boughs, or twigs, and leaves, and the white-root, or pleurisy-root, (*asclepias tuberosa*) would be found among the best, but others may be used for the same purpose. And any article may be used for any purpose for which it is known to be good.

2. To Allay Coughs.—Flaxseed-tea, slippery-elm, gum Arabic-water, white of egg with sugar, not cooked, will be found valuable to coat over and protect the irritated surfaces, and to modify the tenacity, or stickiness of the phlegm, etc.

3. As a Tonic, any of the bitter herbs may be used singly, or in combination, such as snake-root, wormwood, tansy, boneset, hoarhound, gold-thread, hops, etc., etc.

INHALATION AND INHALER.—Inhaling, (or breathing into the throat, lungs, etc.), such articles of medicines as would improve the condition of the blood, or benefit the disease, if applied upon the surface, has been recently revived, after having for a long time fell into disuse; and from the experiments of reliable practitioners, has become very popular, and can be relied upon as a decided help in the treatment of all diseases affecting the breathing, or respiratory organs. Such articles only are used as are evaporative, of themselves, or as can be brought into this state, in form of tincture, then using heat, or the force of the air to aid in throwing the tincture into fine spray, or atoms, to admit of their being drawn into the throat and lungs. With families, a com-

FIG. 38.



INHALER.

mon tea-pot has often been used for this purpose; but, with that, the steam only can be breathed; hence, much time has been spent by various persons to invent "inhalers," or "atomizers" as they are called, and I have used several of them, but not with any considerable satisfaction; after which, I took up with a plan adopted by a friend of mine, of using a common "quinine bottle," with a close fitting cork in it, through which are introduced two small sized glass tubes, such as are used to suck lemonade through, as shown in Fig. 38.

One tube is straight and should reach to within an inch, or so of the bottom of the bottle, and the other is bent by holding it in a spirit lamp, until it is hot enough to bend

It only passes a little way through the cork.

The fluid to be used is put into the bottle, and the straight tube

reaches well down into it. The fluid may be kept hot by holding the bottle occasionally over a lamp (the spirit lamp for sweating purposes will be as good as any, and with it, any man can bend the glass tube as well as the jeweler). When all is ready, apply the mouth to the bent tube and draw in the breath, which takes off a portion of the air above the liquid, when other air rushes in with such considerable force, that as it bubbles out at the bottom it sends up a fine spray, or atoms of the fluid, so that the next and all further breathings are loaded with the medicated vapors and medicines in the bottle. The breath must all be drawn in through the tube, and discharged by the nostrils, which at first, with some, will have to be held with the thumb and finger when drawing in the breath, but after a little, it can be done without such precaution.

This instrument, of course, is simple and will cost only 15, to 25 cents perhaps, while I would rather have it than those costing several dollars. Others, like myself, can have their choice. But as this is so easily kept clean, and does such good work, I think it will meet with favor among the people.

Alterative Inhalant.—For an Alterative Inhalant, see **ASTHMA**. Used in asthma, consumption, bronchitis, inflammation of the throat, etc., or any one or two of the articles, in tincture, can be used alone, when the whole are not at hand.

Expectorant Inhalant.—Pleurisy-root, queens-root, squills, and black cohosh, of each, 1 oz.; lobelia, ipecac, and American hellebore, of each, $\frac{1}{2}$ oz.; dilute alcohol, 1 pt. Bruise all the articles and add the alcohol, in a bottle and shake daily, for a week, and strain carefully, or filter. A tea-spoonful of the tincture to 1 gill of hot water, and Inhale 3, or 4 times daily, or oftener, provided that they give relief from the cough, or enable the patient to raise the phlegm easier; but if no relief is obtained, after a few trials, it may be taken for granted that it is not doing good and may be given up, or changed according to the indications. And although, in some cases the cough may be somewhat relieved; if the breathing becomes more difficult, a change for something more relaxing, or antispasmodic must be made. But in most cases where the cough is dry and the expectoration difficult it will relieve them, and lessen the soreness of the lungs, and the hoarseness, or roughness of the throat. Used in consumption, or coughs, or sore throat, etc., from any cause.

Spirits of camphor and tinct. of balsam of Tolu, equal parts, mixed, 1 tea-spoonful, as above, may be used the same way and for the same purposes; or, any of the expectorant herbs alone, made into tea may be used, as horehound, tansy, elecampane, comfrey, spikenard, etc., $\frac{1}{2}$ an oz. steeped in a gill of water and strained.

I can now add, that since writing the above remarks about the *spirits of camphor*, I have had occasion to use it, and found very great relief from its use. And as it was at a place where no Inhaler was to be had, a sponge was used. The case was a bad case of diphtheria, or as many have been calling these throat difficulties, this Winter, (1872-3) the "epizoot," or horse epidemic, they have certainly very much resembled that disease of the horse. A cup shaped sponge would be the handiest; then wet it well with strong camphor spirits, and wet the throat with it, and face too for that matter, then hold the sponge over the mouth and nose, so that the breathing takes the vapor right to the effected parts. It will choke, or strangle a little, at

first, but that soon passes off, when it can be breathed freely—repeating every hour if necessary to keep down the soreness, keeping the patients bowels lax with mild medicines, and not allowing him to go out of a warm room, easily controlled the case.

Chloroform, 15 drops, in the bottle, then put in the water and cork quickly, or sulphuric ether, same amount, and same way, or laudanum, same amount, and way, in case of pain in the throat, or lungs, or restlessness, they will be greatly relieved and soothed and the pain and irritability abated, or cured.

Soothing and Febrifuge Inhalent.—Tinctures of belladonna and stramonium leaves, and aconite root, of each, 1 oz.; chloroform, and sulphuric ether, and laudanum, of each, 1 dr. and add to these, 4 ozs. of the *expectorant Inhalant*, above. These may be used the same quantity as that, in all cases when fever, to any extent is present, or considerable soreness of the lungs, or throat; and in all chest difficulties, as asthma, consumptions, bronchitis, sore throat, etc.

1. **Astringent Inhalent.**—Geranium, (*geranium maculatum*) and wild indigo bark, (*baptisia tinctoria*), golden-seal root, and red Peruvian bark, of each, 1 oz.; catechu, $\frac{1}{2}$ oz.; dilute alcohol, 1 pt. Let stand a week, or 10 days, shaking daily, and strain or filter, and add laudanum, 1 oz. Use this in chronic bronchitis, or latter stages of consumption, when the expectoration is very free, same dose as the first. It will tend to strengthen and heal, and thereby relieve the lax, or loose condition of the parts.

2. **Another.**—Tannin, pulverized alum, ess. of cinnamon, of each, 1 dr.; rose-water, 4 ozs. A table-spoonful in hot water, 1 gill, same as the first. Valuable in catarrh, as in all other cases of profuse expectoration.

It is not necessary to multiply the prescriptions; but simply let it be understood that whatever medicine would be applicable for internal use, or for external application, made into a tincture, or tea, and properly diluted, or used as above instructed, a tea-spoonful or two to a gill of water, will be found, generally, valuable as an *Inhalent*.

It will not be amiss, however, to say that, in case of soreness of the throat, or lungs, or nostrils in catarrh, or recent colds, etc., the *liniment*, or *pain-killer*, or any other good stimulating liniment used in tea-spoonful doses, the same as above, will be found very satisfactory as an *Inhalent*; or the tincture, or strong tea of any single *expectorant*, *astringent*, or *soothing* and *anodyne* article may be used also, generally with success. In all cases, let the fluid be kept at such a heat, unless it is desired to use something cold, as will make the vapor just sufficiently warm to be comfortable for breathing.

In catarrh, to get the best effects upon the nostrils, it will be necessary to introduce the Inhaling tube to one nostril, closing the other with the hand, and closing the first upon the tube so as to draw the medicines through the nostril, changing from one to the other, every minute, or two, passing the breath out by the mouth.

For report of cases, see **ASTHMA**.

INJECTIONS.—Injections, or *clysters*, as they are technically called, need no particular description, as to their manner of administration, although it is but proper to say that almost any indication required can be affected by them, through the rectum, when the stomach is inflamed, or from any other reason, is in such a condition that medicines cannot be retained upon it, when given by the mouth. If

a large syringe is not at hand, a make-shift must be got up for the purpose, yet, I suppose that but few families are without one. Injections are generally given warm, but sometimes, in constipation, simple cold water, persisted in daily for some considerable time, brings about a change.

But usually, in disease, some emollient and soothing medicine is made use of as the vehicle, or means of introducing medicinal articles, such as flaxseed-tea, slippery-elm mucilage, sweet milk, soft water, soap-suds, molasses, senna tea, thoroughwort tea, lobelia tea, tobacco tea, or a tea of any other article the properties of which it is desired to introduce. They may be used singly, or in combination, to suit the disease, or conveniences at hand. A little sweet-oil, castor-oil, or lard, molasses, salt, saleratus, etc., may also be introduced with the other articles to meet any emergency. From $\frac{1}{2}$ pt. to $1\frac{1}{2}$ pts. of fluid may be introduced at a time. In making flaxseed-tea, about 1 gill of the seed may be put into 2 qts. of water and boiled, and strained; but lobelia, Cayenne, etc., must not have more than 10 grs. to 1 dr. used for any one Injection. A very little of Cayenne, 5 to 8 grs. perhaps, might be introduced without steeping; but, it is better to make a tea, and strain out the drugs of all irritating articles. There are some articles, as lobelia, tobacco, etc., that will have their legitimate, or specific action upon the system, no matter how they are introduced. Advantage can, and often is taken of this fact, to obtain an emetic action from lobelia, by Injection, and of the relaxing effect of tobacco by laying it upon the stomach, as in LOCKED-JAW, which see. Cathartics, astringents, etc., also have an effect when introduced by Injection, but not to so full an extent, and, hence, must be used in considerable larger quantities, than by mouth, when the Injection is the main dependence.

1. **Soothing Injection.**—For all general purposes, sweet milk, $1\frac{1}{2}$ pts.; molasses, and lard, 1 to 2 table-spoonful, salt, and saleratus, $\frac{1}{2}$ tea-spoonful, all dissolved and made thoroughly warm, and introduced in proper amounts, and retained as long as may be. In diarrhea this may have $\frac{1}{2}$ tea-spoonful of laudanum added to each Injection, and used 3, or 4 times daily. If no milk is at hand, slippery-elm, mucilage, or any of the other articles named, according to the necessities of the case, may be taken in place of the milk.

2. **Cathartic Injection.**—Same as above, substituting castor-oil. 1 to 2 ozs. for the lard, and if there is not much pain, leave out the laudanum, and add 2 table-spoonful of the TONIC CATHARTIC, which see, especially in colic, or cholera-morbus, but in these painful cases the laudanum must not be left out but rather increased. Or:

3. **Senna**, $\frac{1}{2}$ oz., steeped in water, $1\frac{1}{2}$ pts. and strained, then add epsom salts, $\frac{1}{2}$ to 1 oz.; ess. of peppermint, or cinnamon, 10 to 15 drops.

4. **Astringent and Anodyne Injection.**—Flaxseed-tea, $\frac{1}{2}$ to 1 pt.; laudanum, $\frac{1}{2}$ to 1 tea-spoonful. Or:

5. **White Oak**, inner bark, or bruised galls, $\frac{1}{2}$ to 1 oz., steeped in water, 1 pt., with 3, or 4 poppy heads; or laudanum.

6. **Emetic Injection.**—In cases where the stomach will not allow the use of an Emetic by the mouth, powdered ipecacuanha, 2 drs. in warm water, 1 pt. for an adult, may be given as an Injection. It will work thoroughly, and kindly, as an Emetic.

A large Brittannia Syringe is the proper thing to use for these purposes, the old plan of using a bladder will answer, but is very inferior as compared with the Syringe.

Whenever the stomach is in so irritable a condition that articles of such a kind as are needed can not be given by the mouth, the Syringe, and outer treatment that will *correct* the secretions must be the main dependence.

ITCH. (*Scabies—Psora*).—The Itch is a contagious eruption, so well known that it needs no particular description; but there is no one who does not consider it a *disgraceful* companion; and I have no doubt but what this idea of shame for any one to have it has arisen from the fact that it is fully believed that those of very cleanly habits never have it; the shame arises, therefore, from the idea that neglect to keep ones self perfectly clean has led to this disease which is confined to the skin.

Cause.—It is generally admitted that a very minute spider-like insect, bearing the large name, *acarus scabies*, makes a lodgment in the dirt and sweat between the fingers, and around the bends of joints, of neglected children, from which it burrows, or cuts its way through the cuticle, or outer scarf-skin, causing a fester, or little pustule, in which it moves about, producing the symptom from which the disease takes its name—itching—the Itch.

Symptoms.—The first indication of the disease will be small pointed white blisters, or vesicles between the fingers, and perhaps around the wrists, bends of the elbows, etc., filled with a watery fluid; and as these are broken by the clothing, or by scratching, a scab will be formed, from which the latter part of the "large name" has arisen—*scabies*, or scabby disease. The intensity, or severity of its Itching, especially nights, from the warmth of the bed, will enable any one to decide as to whether it is the *Itch*, or some other eruption. And it is said never to occur on the face. It is said also that James I. King of England, claimed that the disease was only fit for *kings*, as the luxury of scratching was too great to be allowed to the common people—our answer to that would be, he must have been a *dirty* fellow, or he would not have known it; otherwise there is no more shame in having this disease than in having any other.

Treatment.—Although it is claimed by some that this disease is confined to the skin, and therefore does not need any constitutional Treatment, still, I deem it best to give a few doses of sulphur and cream of tartar, the mixture being made by using twice as much sulphur as of the other, and mixed with molasses, or sirup, to be taken each morning, on first getting up—sometime before breakfast.

2. To avoid the smell of sulphur in the ointment, take sulphur *vivum*, in fine powder, which is a grayish article having none of the smell nor looks of sulphur (it is kept by druggists, and is sometimes called horse-brimstone), and Venice turpentine, of each, 2 drs.; lard 2 ozs. Mix by melting the lard and turpentine together, and stirring in the finely powdered sulphur, as above, and stir until it is cold. Apply night and morning, after having first washed the parts as well as can be done, with warm suds, or soap and water, and drying by pressing a dry towel, or cloth upon the parts, to absorb the water; and in very bad cases, apply at noon also, in the same way. A few days will generally cure the worst cases, without the annoying smell that arises when a child comes near the fire, if common sulphur is used, which may be done, however, if the sulphur *vivum* (native, or live sulphur) cannot be obtained.

3. If the common sulphur is to be used, take of it. 1 oz.; carbo-

nate of potash (salts of tartar), 1 dr.; lard, 2 ozs. Mix and use as the other. If desired, a few drops of any of the essential, or flavoring oils, bergamot, sassafras, lemon, etc., may be used to help cover the disagreeable smell of the sulphur.

I. MISCELLANEOUS RECEIPTS. I.

ICE-HOUSES—Without, and With a Preserving Chamber, for Milk Fruit, and Other Vegetables.—There is about as great a variety of opinions in regard to how an Ice-House should be built, to preserve Ice well, as there is upon any other subject; and as I have had considerable personal experience, as well as the observation of how others have done these things for about 50 years, I think I shall be able to give such instructions, by the help of others, that entire satisfaction will be experienced by those who adopt the plans here given; and as I have no particular desire to appear wise, above my fellows, by claiming that which does not belong to me, I begin by giving the experience of a gentleman of Pa., as reported to the *Scientific American*, after he had tested it two years, the whole of which I fully endorse, and believe to be practicable. The letter will explain itself, and is as follows:

Messrs. Editors.—“The best time for building Ice-houses is now close at hand” (Oct.); “and as it is not generally known that with a little additional expense, an Ice-house can be built so as to answer the double purpose, of keeping ice, and preserving milk, butter, etc., I will therefore, give a description of one, for the benefit of your numerous readers, which I built two years ago, with a Preserving Chamber, for this purpose.

“Ice can be kept, in large quantities,” (not very well in small quantities) “during the whole Summer season in houses built entirely above ground; but where it is desired to have a Preserving Chamber, and to ensure a sufficiently low degree of temperature to attain good results, it is indispensably necessary that the earth should be banked up to the height of several feet against the outside of the building.

“In constructing my Ice-house, I took the advantage of a convenient and descending spot, and sunk a pit 15x18 feet, and from 4 to 5 deep; walled it up to the height of 9 feet, banked the earth up to the top of the wall” (which would be 4 to 5 feet above the top of the ground) “all around, except a space for a door-way. Upon the wall, I put a frame 6 feet high, which gives a light, inside, from the bottom, to the comb of the roof, of over 20 feet. I put in heavy sills at the bottom, except a space 4 feet square, for the Preserving Chamber. Upon the side, I put a floor of 2-inch oak plank, and on top of the plank, a floor of 1-inch pine, jointed” (and I will say matched) “closely. The floor has a descent of 2 inches towards the Preserving Chamber, and it conducts the waste water from the Ice to this Chamber. I put in an inside frame, and lined it inside; this left a space of 6 inches between the lining and the wall, to fill in with sawdust, and the partition between the Ice and Preserving Chamber is also double, and filled in with sawdust.

“To complete the Preserving Chamber, I first put in clean sand to the depth of 4 inches; then paved it with medium burned bricks, they being preferable to hard, on account of their capacity to absorb, and retain, a greater amount of water. Pains was taken to have the floor exactly level in the one direction, and also very tight, so that all of the waste water, from the melting of the Ice, shall be conducted to and distributed regularly upon the bricks. This keeps them so constantly cool as to preserve Milk, during the hottest season, for from 33 to 36 hours, perfectly sweet, and Butter very hard. One valuable feature belonging to this mode of preserving Milk and Butter is, that during the warmest weather of the Summer, when cold sweet Milk; and Butter of a degree of solidity equal to that of the Winter is appreciated as one of our greatest luxuries, we can have it so from the simple fact, that, at that particular time, the supply of the cold ice-water is the greatest.

“Butter made and kept in this way, does not become so soon soft, after being brought to the table, as that which has been kept in a spring-house, by setting in the water; nor do thunderstorms appear to hasten the development of lactic acid. We have noticed no perceptible difference in the length of time which the Milk has remained sweet in regard to clear or stormy weather. I have observed at different times, by placing the thermometer within 1 foot of the brick, in the Preserving Chamber, that the temperature was about 54° while it was 95° in the shade, outside. The sand underneath the bricks subserves an important purpose, by retaining the water, and supplying it to the bricks, by capillary attraction, at such times as there is not a great supply coming from the Ice.

“The space above the Preserving Chamber should be open and unobstructed to the roof, and, over the Ice, there should be good ventilation to the roof to carry off all vapors which may arise from the milk.

“An Ice-house constructed in this manner, is one of the best of investments for a farmer; for, besides securing the luxury of preserving Milk and Butter, cool, vegetables of different kinds may be preserved fresh until a succeeding crop grows. I kept last year's beets good during this Summer; also cabbages. The latter were laid upon the Ice, which gave them a crispy sweetness perfectly delicious in the very warm weather

of last June. *Vegetables may also be preserved, in this manner, by farmers, so as to bring them fresh to the market in early Summer.*"

Christina, Pa.

SAM. L. DENNY.

I have given this lengthy description, because I look upon the "Preserving Chamber" as of very great importance, believing that it will pay, many times the additional cost of making; and now I will add a few facts which experience has shown to be, if not an absolute necessity, of very great assistance, in Preserving Ice through the Summer:—

1. If you have a hill, sloping to the North, dig your Ice-house there, and bank up as much, on the lower side, as the dirt thrown out will do, and more if you think best—if no hill—put your Ice-house on the North side of the largest building you have, so as to throw it, as much as possible, in the shade, and never less than 12 to 15 feet square.

2. In all cases make the floor, sides, door, and roof with double walls, and fill them in with chaff, straw, or sawdust, packed as tight as possible; and the higher it is banked up, on the outside, the better.

3. In filling, put in as large, and thick Ice as can be handled, leaving a space next the wall, all around, of at least 6 inches, to be closely packed with straw, or sawdust, wetting whichever you use, as you put it in, which adds much to the safety of the Ice. Place the blocks as close as possible; and fill all crevices with smaller pieces, then fine Ice to make all perfectly solid; and, notwithstanding that many say freeze it together by throwing on water, I say, unless the weather is very cold, do not put on any water at all, as the water will thaw out much of the fine Ice, thereby making cracks, which you are trying to avoid.

4. I would only add, that if the Ice-house is built of sufficient height to allow the Ice to be put in 10, or more feet deep, I should make a water-tight floor over the Preserving Chamber at $5\frac{1}{2}$, or 6 feet, double, if necessary, filling the space with sawdust, so as to make the Ice cover the whole size of the building above that, as it would be cooler from the larger amount of Ice used, and put a double tube, made of boards, say with a 4-inch hole in the center, to run up through the Ice as a ventilator, to carry off the warmer air from the upper part of the Preserving Chamber.

5. Where it is only desired to put up Ice without a Preserving Chamber, it is not necessary to be so particular about the floor, and perhaps not absolutely necessary to have any floor at all, yet if a brick floor was laid, it would be cooler, than a floor of sawdust, and aid in keeping the Ice from melting at the bottom. And of course, in all cases, Ice must be covered with straw, or sawdust to the depth of 2, or 3 feet to prevent it from melting on the top.

ICE-CREAM.—Morning's milk 3 qts.; nice sweet Cream, 1 qt.; nice, fresh-laid eggs, 1 doz.; No. 1 coffee sugar, 1 lb.; fl. ex. of lemon, vanilla, or peach, to suit your taste.

Bring the milk and cream to a scalding heat and remove from the fire; and having beaten the eggs to a perfect froth, stir them in quickly, adding the sugar and flavoring it, it is ready to freeze. And it will be all the better if this is not done only a sufficient time before it is needed to allow $\frac{1}{2}$, or $\frac{3}{4}$ of an hour for freezing; then pour into the freezer and keep it in continual motion till wanted; as slow freezing separates the watery parts of the milk into icy particles; while the quickly frozen Cream has a smooth Creaminess, not otherwise obtained. It can be frozen in a deep, covered tin pail holding about 6 qts., by setting it in a water-bucket, and packing broken Ice around it, mixing in about a pint of salt, being careful however, not to get any of this into the Cream in lifting the cover to scrape off the frozen Cream to allow other portions to come in contact with the freezing surface; but if Ice-Cream is to be made pretty often, it would be better to get a small "freezer" at once.

It can be increased in quantity, a little, by stirring into the scalding milk 3 table-spoonsful of corn starch; but it gives it a floury taste easily detected by those who are accustomed to a good article. If it is frozen before you are ready to serve it, let it stand in a cool place, covering the whole with a wet blanket. More sugar may be used, but it is a fact, however, that the sweeter the Cream, the dryer will one be after eating it; and another fact is of very great importance to remember, that is, that Ice-Cream reduces the temperature of the stomach below that at which food will digest, and the more "ice cold" drinks, even water, taken after the Cream, makes it so much the worse for health, until the stomach has become "soured," then are well to comfort, as well as to health.

INCENSE FOR THE SICK-ROOM.—Cloves and allspice, of each, $\frac{1}{2}$ oz.; gum benzoin, $\frac{1}{4}$ oz.; cascarrilla bark (it comes from the West Indies in quills much like cinnamon bark, of a very grateful flavor), and cinnamon bark, of each, 1 dr.; orris root, sandal wood and nutmeg, of each, $\frac{1}{2}$ dr.

Pulverize, or grind all these articles very fine, and thoroughly combine, or mix them, and keep well corked to prevent evaporation of the flavor; and if any one or two of the articles cannot be got, the balance will do very well. To use, to correct the odor of Sick-Rooms, have a red hot shovel, or coals, or hot cinders, and drop a pinch, or two, with the thumb and finger upon them. The odor of the incense will be very grateful to the feelings of the patient.

INKS.—Nut-galls, and sulphate of iron (copperas) to set the color, and gum to give body, and to hold the color in suspension, is all that is needed to make good durable black Ink for writing purposes. For copying sugar is added, 2 to 3 ozs. to each gal.

Other colors may be made by using any of the ordinary coloring "stuffs" used for coloring woolen, or silk goods.

1. **Black.**—Soft water, 1 gal.; best nut-galls, bruised, 1 lb.; green copperas, and gum Senegal, (if this gum is not to be obtained, gum Arabic is the next-best), of each, $2\frac{1}{2}$ ozs. Boil the bruised galls for 3 hours, in 3 qts. of the water, adding boiling water, from time to time, to make up, for evaporation. When settled, strain, and press out the clean liquid. Dissolve the gum and the copperas, each by itself in $\frac{1}{2}$ pt. of the water and add to the gall-liquid—in a bottle and cork for use. If it is short of a full gallon, make it up with hot water.

This makes a good business Ink, rather pale when first written with; but all the better for that, as it penetrates the paper better than a thick Ink, which all are that are Black at first.

A Mr. Archibald Patterson recently read a paper before the Glasgow Chemists' and Druggists' Association which embraces some very valuable Ink Receipts, I can only find room, however, for the Receipts, I wish I could, for the remarks connected with them, as they embrace the full philosophy of Ink making. First, he says:

"Concerning the composition of Ink: When we look at the usual source, namely, galls, one would at first imagine that gallic acid wrought a most important part in its manufacture, but such is not the case. The galls are used in the process, not because they are rich in gallic acid, which they are not, although it is from them we obtain most of the gallic acid of commerce, but because they contain a high percentage of tannic acid.

2. "The proportions which appear most suitable, and upon which most dependence can be placed, are—bruised galls, 1 lb.; to this add 1 gal. of boiling water, and one-third of the weight of the galls, namely, $5\frac{1}{3}$ ozs. of sulphate of iron, in solution; also 3 ozs. of gum Arabic previously dissolved, and a few bruised cloves, or a few drops of creosote, or carbolic acid, dissolved in methylated spirits. It is better to allow the galls to macerate for twenty-four hours, then to strain the infusion, and add the other ingredients."

3. The late celebrated chemist, Dr. Penny, of Anderson's University of Glasgow, Mr. Patterson went on to say, used the following formula, or Receipt:

"Bruised galls, 12 ozs.; macerate for a week in 1 gal. of cold water, then add 6 ozs. of sulphate of iron in solution, and 6 ozs. of mucilage of gum Arabic, and 5, or 6 drops of creosote."

"The learned Doctor," he continues, "has here taken advantage of a fact well known to chemists—namely, that tannic acid is more soluble in cold, than in hot water—hence the cold maceration is prescribed, which I believe is pretty generally employed by first-class ink manufacturers.

4. "The celebrated blue-black Ink prepared by Messrs. Duncan, Flockhart, & Company, is said to be made by the process of cold maceration. A formula, said to be theirs, of which the following is a copy, was printed and circulated some years ago by an English gentleman. It explains the process more fully:

Blue-black and Copying Inks.—Blue Aleppo galls (free from insect perforation) $4\frac{1}{2}$ ozs.; bruised cloves, 1 dr.; cold water 40 ozs.; purified sulphate of iron, $1\frac{1}{2}$ ozs.; pure sulphuric acid (by measure), 35 minims; sulphate of indigo (in the form of a thin-paste), and which should be neutral, or nearly so, $\frac{1}{4}$ oz.

"Place the galls, when bruised, with the cloves, in a 50 oz. bottle, pour upon them the water, and digest, often daily shaking for a fortnight. Then filter through paper in another 50 oz. bottle. Get out, also the refuse of the galls, and wring out of it the remaining liquor through a strong clean linen, or cotton cloth into the filter, in order that as little as possible may be lost. Next put in the iron, dissolve completely, and filter through paper. Then the acid, and agitate briskly. Lastly the indigo, and thoroughly mix by shaking. Pass the whole through paper. Just filter out of one bottle into the other till the operation has been completed.

"On a large scale, this fine Ink may be made by percolation as Duncan, Flockhart, & Company and others in Edinburgh do it, the above being said to be their Receipt.

"The weights used are avoirdupois, and the measures used are apothecaries' measures.

"Note.—No gum or sugar is proper, and on no account must the acid be omitted. When intended for copying, $5\frac{1}{2}$ ozs. of galls is the quantity.

"You will observe that there are several peculiarities about this Writing Fluid, namely:—First, the cold process is used. Second, the want of gum. Third, the use of sulphate of indigo, which is a solvent for the black precipitate, the tanno-gallate of iron; hence the gum Arabic is not required, as it is only used to suspend this precipitate. Fourth, the deficiency of iron, which may be accounted for by the pure protosulphate being used, which cannot contain, or should not contain, any oxide, so that all the iron is free to combine with the tannin. Fifth, the use of free sulphuric acid, which is generally looked upon as detrimental to Writing Fluids, but which must be introduced here for some purpose, of which I am as yet ignorant.

"Let us now glance at the properties of the various ingredients used in the process. If we use an excess in galls, we simply throw away money, and render the Ink more liable to mold. If we use an excess of iron, the galls being insufficient to decompose it, the characteristic color of its oxide is soon shown by the Writing becoming brown. The

use of an excess of gum causes the Ink to clog the pens, and the Writing to be wanting in fluency. The water should be as soft as possible—that is, it should contain no lime, or other earthy matter: hence rain water, or, better, distilled water; is frequently prescribed in Receipts, for making Ink.

5. "The cheapest Ink which has hitherto been introduced is one composed of a saturated solution of logwood obtained by boiling 22 lbs. of logwood in a sufficiency of water to produce, after being strained, 14 gals. of liquor; to this decoction 1 lb. (avoirdupois) of yellow chromate of potash (not bi-chromate) is added in solution; the proportions are 1,000 parts of solution to 1 of chromate; the change of color is not an immediate one, but gradually becomes darker. The experiment may be tried, on the small scale, by using logwood, a $\frac{1}{4}$ lb. boiled in water to produce 1 qt., to which when strained, add 20 grs. of chromate of potash in solution.

"We will now glance at the composition of "writing fluids" used for special purposes; thus we know that writing which is intended to be copied is written with Ink containing either gum, sugar treacle, glycerine, or some such substance which causes the writing to retain moisture, so that a copy of it may be produced even after the original writing has become dry, by being simply dampened and pressed.

"The following formula requires no press, but may be copied by placing a damp sheet of copying paper on the writing intended to be copied; above this sheet of copying paper a sheet of ordinary writing paper must be placed, and then pressed with a paper-knife.

6. "**Copying Ink.**—Mix 30 grs. of ex. of logwood; 7 grs. of crystal soda; $\frac{1}{2}$ oz. of water. Boil till dissolved; then, while stirring well, add 30 grs. of glycerine, 1 gr. of chromate of potash, previously dissolved, and 4 grs. of powdered gum Arabic.

7. "**Indestructible Ink for Deeds, etc.**—Dissolve 25 grs. of powdered gum copal in 200 grs. of lavender oil, by the aid of a gentle heat; then add $2\frac{1}{4}$ grs. of lamp black, and $\frac{1}{2}$ gr. of powdered indigo.

8. "**Another.**—for the same purpose:

In 18 ozs. of water, boil shellac, 2 ozs. and borax, 1 oz., when cold, filter and mix with 1 oz. of gum Arabic dissolved in 2 ozs. of water, to which add powdered indigo and lamp-black as much as may be required.

9. "**Red Ink.**—Is commonly prepared by boiling brazil wood, 2 ozs. in 32 ozs. of water, to which add, after the decoction has been strained, $\frac{1}{2}$ oz. of chloride of tin, and 1 dr. of powdered gum Arabic; then evaporate to 16 fluid ozs. Or:

10. Dissolve No. 40, carmine, 1 dr. in $\frac{1}{2}$ a dr. of liq. ammonia, then dissolve 20 grs. of powdered gum Arabic in 3 ozs. of water, which add to the dissolved carmine.

11. "**Blue Ink.**—May be prepared by dissolving 2, or 3 ozs. of sulphate of indigo in a gal. of water; or by rubbing together 1 oz. of oxalic acid, and 2 ozs. of fine Prussian blue, or best Chinese blue.

12. "**Ink Powder.**—May be prepared by mixing—powdered galls, 4 ozs.; powdered sulphate of iron, 1 oz.; powdered gum Arabic, 1 oz.; powdered white sugar, $\frac{1}{2}$ oz.; powdered cloves, 1 dr.

"To these proportions add of water 1 qt. and macerate, or steep for an hour or two.

"**Note.**—The quantity of sulphate of iron is small because it must first be dried, and will thus lose the weight of water evaporated.

13. "**Ink in Cakes.**—May be prepared by evaporating good Ink to dryness in shallow dishes, but the best results are obtained by dissolving Chinese Ink in water.

14. "**Marking Ink.**—This substance is so well known that little may be said on the subject. The process is founded on the chemical fact that, by applying heat to a salt of silver in combination with other ingredients, the writing becomes immediately, and should remain, permanently black; the formula of Professor Redwood is a good one:

Dissolve separately—nitrate of silver, 1 oz.; crystal carbonate of soda, (sal-soda) " $1\frac{1}{2}$ ozs.; mix the solution, and collect the precipitate on a filter: wash well, then introduce the moist precipitate into a mortar, and add 8 scrus. of tartaric acid; triturate till effervescence ceases; then add of liq. ammonia fort. a sufficient quantity to dissolve the tartrate of silver, to which add 4 drs. of archil, 4 drs. of powdered white sugar, and 12 drs. of powdered gum Arabic, and make up to 6 fl. ozs., if required, with distilled water.

15. "**Crimson Marking Ink.**—Is prepared by adding 6 grs. of carmine to the liquor ammonia of the above formula, but it soon loses its crimson color, and becomes, like other Marking Inks, a black color.

"In conclusion, I cannot lay aside this subject without referring to the beauty, brilliancy, and variety of color produced from aniline, whereby we can procure any shade from the most brilliant scarlet to the most sombre black: and should we at any time be deprived of Ink from the present sources, we may rest content that so long as our coal fields yield their sparkling riches, so long may we, without fear, look forward to an unlimited supply of our Writing Fluids."

Black Ink not Corroding to Steel Pens.—I will give one more Receipt for school purposes not Corroding to Steel Pens:

Best bruised nut-galls, 3 ozs.; gum Senegal, 1 oz.; copperas, 1 oz., and $1\frac{1}{2}$ drs.; aqua ammonia, 12 drops; alcohol $1\frac{1}{2}$ ozs.; rain, or distilled water, 1 qt., and 1 gill.

Digest the whole in an open iron vessel until the fluid has assumed a deep black color; then strain, or filter and bottle for use.

16. Yellow Ink.—French berries, 1 oz.; alum, $\frac{1}{2}$ oz.; gum Arabic, $\frac{1}{4}$ oz.; soft water, $\frac{1}{2}$ pt.

Boil all together for a few minutes, and strain, and bottle. Used for sketching, when different colors are desired.

17. Ink for Zinc Labels for Trees.—Verdigris, and sal ammoniac, of each, pulverized, 30 grs.; gum Arabic, pulverized, and lamp-black, of each, 8 grs.; soft water $\frac{3}{4}$ oz.

Dissolve the gum in a little of the water and rub up the lamp-black with it; and put into an ounce phial, with the other articles. The nature of this is such that if Zinc Labels are written upon with it, with a quill pen, it corrodes the Zinc only sufficient to show the letters well; and it will last for a long time, while the common Ink soon fades out, and you are left to guess what your fruit is, until it bears.

18. Indellible Red Ink, for Marking Linen.—Vermilion, $\frac{1}{2}$ oz.; salt of steel, 1 dr. Rub them with linseed-oil. Thick, for type, or plate; and thin for brush, or pen.—The salt of steel is Griffith's Mixture (*Mistura Ferri Composita*) of the Pharmacopias.

19. Indestructible Ink for Filling Letters in Stone.—Pitch melted and darkened with lamp-black.

INTEREST—Simple and Perfect Method of Reckoning all Rates.—Multiply the principal, in dollars, by the number of days; then divide by 73—the answer is the Interest at 5 per cent, in Cents. For 6 per cent, add 1-fifth; for 7 per cent, add 2-fifths; for 8 per cent, add 3-fifths; for 9 per cent, add 4-fifths, and for 10 per cent double the first amount.

To reckon Interest at 30 days for a month, gives you only 360 days for a year—five times 73 make 365, so, by the above rule you obtain the Interest on every day the money is out, which is *true* and *honest* between man and man.

Example.—For \$100 for 1 year at 5 per cent, would be \$5; then it is evident that for 73 days it would be \$1, or 1-fifth of that amount. For \$100 for 73 days, multiply the days, for convenience, by the amount, would give 7,300, which, divided by 73 gives 100 Cents as the Interest. Now to get the Interest at 6 per cent, divide the 100 cents by 5, the Answer is 20, or 1-fifth, which added to the first, gives \$1.20,—the Interest at 6 per cent—twice 20 would be 2-fifths,—7 per cent—3 times 20 would be 3-fifths,—8 per cent—4 times 20 would be 4-fifths,—9 per cent, and twice 100 cents would be the Interest at 10 per cent, for the 73 days. This will work just as satisfactory on any amount and on any other number of days; but there is *no other* number, except the *seventy-three*, which will divide 365 without a fraction, which is not so satisfactory; hence, the 73 has been taken. A very little practice upon this plan of Reckoning Interest will, I believe, give better satisfaction than that of *tables*, or *any other way*.

INK STAINS—To Remove from Clothing.—"Shirley Dare" writing to a Chicago paper, gives the following information how to Remove Ink Stains. Its value will be appreciated by all:

"By the way, now that every woman does so much writing, it is certainly very much worth while to know how to take Ink spots out of colored clothing. The writer, 'on a summer's day,' when it seemed that one had enough to do to support life without extra trouble in the torrid heat, once upset a bottle of Ink into her lap, over a linen dress, stripped with brown and white, and trimmed with many rows of brown braid. Aghast, the first thought was that the dress was ruined; the second was to dip the skirt at once into warm water, rinsing as much Ink out as possible, but what was left made a rueful sight—hand breadths of doleful, thunder-dark color over the light summer dress. Quick, it was again plunged into a warm solution of oxalic acid—hot, that it might take effect sooner. Care was taken to dip only the spots into this liquid and in a minute they faded, of course taking the color of the stripes with them. The linen was rinsed in warm water again, and wet with a dilution of ammonia, and the dress was as good as ever. Henceforth I keep high and sublime courage over all Ink mishaps, sure that *acid* and *ammonia* and *care* will make it all right again. The process must be gone through as quickly as possible, when once begun, but it will cancel old Ink spots on wool, cotton or linen."

2. Lemon juice, while the stains are recent, will do the same thing on white goods, and if there is any color changed, a lye from wood ashes will neutralize the acid and restore the color; and wood-ashes put onto recent Ink spots, on the floor, and kept moist for 24 to 48 hours, will remove it to a depth, so as not to show.

IRON RUST—To Remove from Clothing.—Various articles of table linen becomes spotted from the wash-kettle; and ladies clothing sometimes becomes stained from the steel-stays in corsets, etc. This may be removed by rubbing a cut lemon over the spots to wet them fully with the juice then rub on salt and hang them out in the sun. for a time, and if not removed the *first* time give a *second* rubbing with the lemon and salt.

2. Oxalic acid dissolved in water is perhaps the quickest way; but needs to be washed out as soon as the spot is removed, otherwise it will injure the clothing.

IRON AXLES—to Case-Harden.—Have Prussiate of potash pulverized and spread out upon a piece of flat iron, or stone, so that when the Axle is heated just to a red heat, it can be rolled in the powder, thoroughly, then turning it up, or rather down quickly, pour some cold water upon it, and dip into cold water as quick as possible

The Axle will wear many years longer for it. Crooked articles may have the powdered Prusiate sprinkled upon them.

JAUNDICE.—The word Jaundice comes from the French *Jaune*, meaning yellow, or *Jaunisse*, Jaundice, or yellow disease; in ancient English it was called Jaunis. If the cause of the disease could be as readily told as from whence comes the name, there would be but little trouble to find the remedy; but this cannot always be positively designated, or determined, from the many complications which, more, or less aid in originating it, among which may be mentioned the following:

Causes.—A positively known Cause may be that of obstruction of the gall-ducts by the passage and stoppage of gall-stones, between the liver and gall-bladder, which would be known by the symptoms of excruciating pain, etc., as given under that head, which would also call for the treatment there given. It may arise also from an obstruction between the gall-bladder and the intestine, or duodenum, where the bile is poured into the intestine about 4, or 5 inches from the stomach. The bile becoming thickened, or by the presence of large gall-stones in this outer duct known by physicians as the *ductus communis chole-dochus* (common duct, or union of the ducts, from the liver and gall-bladder) so completely closing this pipe, or duct, that the bile which should have a free exit, is thrown back upon the blood, and is, therefore, re-absorb and carried to all parts of the system, showing the positive symptom—yellowness—or Jaundice. Diseases of the liver, or of the heart, which may cause pressure upon the ducts, by tumors, or enlargements, are also believed to be Causes of Jaundice. Drunkenness is also known to be the Cause of Jaundice in many cases.

And yet, there are those who claim that the *bile* is formed in, or by the blood, and not in or by the liver, as more commonly believed, and that the office of the liver is as a strainer to separate the bile from the blood, wherefore, from inflammation, or sluggish inactivity of the liver this office of straining off the bile from the blood is so greatly interfered with, that it remains in the blood until its continued accumulations Cause it to show upon all of the outer surfaces, and in case of death, is found even in the bones, and all the tissues, or different parts of the system; and, from the well known fact that hot baths, or sweating hot drinks, emetics, cathartics, diuretics, and tonics, or alteratives, properly administered, *so frequently cures the Jaundice, as well as most other diseases*, by restoring the general health, I am favorably inclined to a belief of this latter position.

Symptoms.—After what has been said, I need not dwell upon the leading Symptoms—yellowness of the skin, whites of the eyes, etc., but proceed to say that the urine will also be yellowish, or saffron-colored, sometimes to so great an extent that white cloths dipped into it will be stained quite yellow. The stools, or feces are whitish, or clay-colored, or in other words, lack color, with sometimes looseness, and at other times constipation of the bowels. There is often but little appetite, or even loathing of food, with a sense of weight, or distress in the stomach, and soreness also, and possibly sickness of the stomach with vomiting, bitter taste in the mouth, more, or less pain in the region of the liver, increased by pressure, dullness, or even sleepiness, etc.

Treatment.—When it has been fully ascertained that there is such a condition of the system established that Jaundice, or yellow-

ness of the skin, or eyes, or both are being manifested, take a hot bath, or the usual SWEATING process, which see, and follow it up with an emetic, which together will relax the system generally; then sponge the surface with spirits, or with CAYENNE AND WHISKEY, which see, if that is at hand, to stimulate the skin to an increased and healthy action; and as a drink, with the emetic, give a strong, warm tea made of the leaves and flowers of the boneset (*eupatorium perfoliatum*), as this is recommended in this disease by nearly all Schools of medicine.

2. If the bowels are loose, give an injection of warm slippery-elm water with a tea-spoonful of salt in it; and, on the other hand, if there is constipation, give an injection of warm water having a table-spoonful of epsom salts dissolved in it, following, at bed time, with a cathartic calculated to act on the liver, the HEPATIC, or LIVER PILL, will be valuable, to be taken in sufficient quantities to move the bowels pretty freely; and these should be repeated once in about 4 days, and the emetic every other day, for 2, or 3 weeks, or until the full benefit of their action is manifested by an improvement in the condition of the patient. In connection with this Treatment a diuretic should also be given. The acetate of potash will probably be found the most appropriate. Dr. Scudder thinks that this article helps to remove the coloring matter of the bile more readily than any other; which is done perhaps, by dissolving, or making more fluid, that portion of the blood which becomes thickened in this disease, and also corrects the condition of the kidneys. Some persons like the action of the fluid extracts of *buchu* and *uva ursi*, kept by druggists, combined in equal quantities, in doses of from half to a tea-spoonful 3, or 4 times daily; but if the stomach is much disturbed, this often causes an increased oppression of that organ, the smallest dose then should be taken.

3. The following Tonic is highly recommended in this disease:

Wild cherry-tree bark, sheep laurel leaves (*kalmia latifolia*—known also, as laurel, lambkill, big-leaved ivy, spoonwood, mountain laurel, calico bush etc.), barberry bark (*berberis vulgaris*), bitter root (*apocynum androsaemifolium*, also known, as dogbane, milk-weed, etc., it will be remembered that the object of giving these technical, as well as the common names is to avoid the possibility of mistake in articles not well known). Take 1 oz. of each of the 4 articles, and steep them, being well covered, for an hour, or two, in pure cider, 2 qts.

Dose.—A table-spoonful, or two before each meal, and at bed-time. An egg taken in a glass of pure cider, between meals, in some cases, that is when the stomach does not sour, will prove valuable—some prefer, however to leave out the yolk. I think it will nourish, and not injure the action of the albuminous part. If all the articles cannot be got for the Tinct. as above, take peach-tree, bark of the root, and the wild-cherry tree bark, of each, 2 ozs., and steep in the cider, and use as the other. Cider alone, has been found valuable in many cases. And where cider cannot be obtained, gin will be the next best to use, and "good rye" the next in order.

4. An acid drink, and an acid bath are both looked upon as valuable aids in this disease. To prepare the first, have 1 dr. each, of nitric and muriatic acids, in ground stoppered bottles, as they will cut and destroy corks very quickly, and if either is allowed to get onto the clothes, will eat a hole through just as quickly, drop 2 drops of nitric and 3 drops of the muriatic into a tumbler of water, stir and drink

2, or 3 times daily. It ought not to be more sour than a good lemonade. To prepare the *bath*, take *dilute* muriatic acid, 9 fl. ozs.; *dilute* nitric acid, 6 fl. ozs. Mix, and add water, 1 pt. To use, put 3, or 4 table-spoonsful of this mixture to water, 1 qt., or to give it the taste of common, or weak vinegar; then sponge the whole surface with it, and if it cause pricking, or a tingling sensation to the skin, it is of the correct strength, if it does not, add a little more of the mixture. This *acid bathing* may be used on the alternate days from that on which the emetics are given.

5. Dr. Gunn says he has used Sweet-Oil with great advantage after giving the *emetic* in this disease. A $\frac{1}{2}$ pt. daily in divided doses. If it is caused by the drying, or hardening processes of the gall-fluid, as in gall-stones, it may be taken for granted that it will prove valuable.

6. Dr. Johnston, of London, says he has cured very severe cases with pills made of dried ox-gall, 5 gr. doses at first, increased to 10 grs., 3 times daily.

Females, in the middle months of pregnancy are occasionally troubled with Jaundice from a pressure of some of the organs upon the gall-ducts; but this need not cause alarm as the later natural rising, or change in the position of the womb, will generally relieve the difficulty. An occasional cathartic of a very mild character, and lying nights upon the left side, will further aid in giving relief.

J. MISCELLANEOUS RECEIPTS. J.

JAPAN VARNISH FOR HARNESS, CARRIAGE-TOPS, ETC.—Boiled linseed-oil, 1 gal.; burnt umber, $\frac{1}{2}$ lb.; true asphaltum, $3\frac{1}{2}$ ozs.; turpentine sufficient to thin it properly.

Grind the umber with some of the oil; melt the asphaltum in a little of the oil also, by heat; then add the umber mixture and the balance of the oil and boil; and when cool, reduce to a proper consistence for use with turpentine. Applied to Harness, Carriage-tops, etc., by means of a bit of sponge with a wire twisted around it for a handle.

JAMS.—Blackberry.—Mash the Blackberries, cover them with white sugar, and stand them over night, in a cool place. Use sugar, 1 lb., to 3 lbs. of berries. In the morning, boil for 20 minutes, stirring well, but using no water. Have the Jars hot, the same as for CANNING FRUIT, which see, and put in the Jam while hot, and screw on the lids immediately—tightening them again, when cool.

2. **Raspberries** may be treated in the same way, with the same success. If it is desired to be free of the seeds, the mixture must be strained through a thick muslin cloth before boiling; but it does not pay for the trouble, since Jells are now mostly used for flavoring drinks for the sick, while Jams are eaten more as a sauce, or used in making pies, tarts, etc. The English people are in the habit, however, of putting a wine-glass of brandy to each pt. of the berries—every one can suit themselves.

3. **Apple Jell.**—A very nice Apple Jell is made by taking sour Apples, peeling, coring, and slicing; then just cover with water and boil until quite soft and draining off through a colander, without squeezing, unless it be to place a plate upon them with a little weight upon it. Then boil down the juice one-half, and to each pt. put 1 lb. of sugar, white, or brown, as you wish it light, or dark, and boil until it Jells.

4. **Another.**—Where many Apples are being pared, an excellent Jell is made, also, by boiling the parings, same as above, then squeezing the pulp through a colander, and adding sugar and boiling to suit, and using for Jell-cake—this was the custom with the cook, at the Russell House, in Minn., for some months before I knew it; and when it came to my knowledge, I thought it was too good "to go back upon," especially when I was paying \$12 per barrel for Apples, further, I believe, the flavor is better than that made from the peeled Apples, for it is a well known fact that the richest flavor of fruit is in, or near the skin.

5. **Grape Jelly.**—A very nice colored, and fine flavored Jell is made from ripe Grapes. Pick any quantity, you desire, of nice ripe Grapes from the stems; and extract the juice by setting them in the stove-oven, using a wooden spatula, or paddle to stir with, when all are nicely burst open, strain out the juice, and boil the strained juice for 20 minutes, skimming well; then for each pt. of the juice, after boiling, add white sugar, 1 lb., and boil 5 minutes more, or sufficient to cause it to form the Jell, when a few drops of it is cooled. Stir carefully when boiling to avoid burning.

The Jell-jars now kept by dealers saves much trouble in putting up. Sprinkle the top $\frac{1}{4}$ -inch deep with fine sugar and screw on the top, or if bowls are used, do the same, and tie on waxed cloths, or what is equally good is to take white writing paper and cov-

on one side of it with the white of egg, beaten, the paper being cut large enough to lap over the edge $\frac{1}{4}$ to $\frac{3}{4}$ of an inch, first having cut into the edge of the paper every inch, or less, so it will fold down smoothly to the bowl, or tumbler, and the egg will hold it without tying, and keep it air tight.

6. Green-Grape Jelly.—I see it stated that Green Grapes make a very nice Jelly, picking them just as they begin to turn. I have not tried them, however, but the ripe ones, we have,—have it now on hand, very nice, made $1\frac{1}{2}$ years ago, as No. 5.

JUMBLES.—Although Jumbles are found with the CAKES, yet here is one nice enough to go with the Js:

Flour, sifted, 1 lb.; white sugar, $\frac{3}{4}$ lb.; butter, $\frac{1}{2}$ lb.; eggs, 4.

Make the dough as soft as you can knead it; then take off small pieces and roll with the flat of the hand upon the table, into long round rolls, and cut off into pieces about 6 inches $\frac{1}{2}$ length, form into a circle, pressing the ends together. Lay them upon pulverized sugar, keeping the sugared side up, put into tins, and bake only until slightly browned.

KID GLOVES—to Clean.—Kid Gloves are a very easy thing to get dirty, and as easy to Clean, if you know how! Then;

Take alcohol, any quantity, and camphene, one-fifth as much, by measure, and cork for use.—This makes old-fashioned burning-fluid.

Place the Glove, smoothly, on a table or board, and with a sponge apply the mixture, rubbing the surface with it until the dirt and grease are removed; turning, and sponging the inside also, otherwise it will strike through again, soon. Then clean them thoroughly by dipping into the tea-cup in which you have poured an ounce, or two, of the fluid, and squeeze out, 2 or 3 times; then blow into the cuff-end to inflate the fingers, and dry in a moderately warm place, stretching the fingers from time to time, to prevent shrinkage.

It would be best to do this work by daylight, as the mixture is inflammable, or rather the gas arising from it.

LIVER—Ulceration.—For a description of the Liver, its Ulceration and dysentery, arising from it, its treatment, etc., see INFLAMMATION OF THE LIVER.

LUMBAGO.—A Safe but Amusing Cure.—“The following amusing, though slightly painful incident, actually occurred at a farm-house not a great many miles from the village of Capetown, C. W. All are subject to the ills of the flesh, and Mr. —, a worthy and highly respected man, was very severely afflicted with that painful complaint, Lumbago” (a rheumatism, or a rheumatic pain in the loins and small of the back); “so much so, indeed, that he could not stand erect, and could walk with great difficulty. As is common in such cases, it was thought desirable to rub the afflicted part with some spirituous compound” (liniment); “and that the application might be the more effectual, the good-man was sat with his back to the fire while the good-wife gave sweet relief—now applying the spirituous oil—now warming her palm over the cheery-blaze, and again chafing the afflicted part. While thus engaged, it unfortunately” (can’t see it in that light) “happened that, without the good-dame observing it, the spirit upon her hand took fire, and she, with a ‘magnetic pass,’ at once set the old gentleman’s back in a blaze. The effects produced were akin to miraculous. He bounded up with a new-born energy, rushing around the house, and uttering a string of expletives totally unworthy of a deacon. But fortunately, the fuel that supplied the fire was soon exhausted and did not set his clothing on fire. Tired and sore, he was put to bed, and we are happy to add, Cured of his Lumbago, and has never had it since.” As it Cured the patient, I could not see the “unfortunately.”

If any one should doubt these statements, let them dip their hand into alcohol and hold it over a candle, or other blaze, and they will find it to take fire immediately and burn freely, for a moment, and until the alcohol is nearly gone, it will not burn the hand. It will do the same with a liniment.

LUNGS—to Expand.—It is a very general fault with the peo-

ple in not being more efficient in daily Expanding the Lungs to their fullest capacity; for want of this, they are much more liable, like any other half-exercised organ, to take on disease. This may be largely prevented, by repeated daily inflations; and the proper time for it is upon rising in the morning, by standing upright and throwing the head back, draw in all the pure air that the Lungs will contain; then throw the arms back, and slowly blow out the breath—let this be done several times *every* morning and the chances will be much against your having the consumption. See INFLAMMATION OF THE LUNGS.

L. MISCELLANEOUS RECEIPTS. L.

LABELING ON TIN.—The difficulty of making Labels stick upon Tin arises from the extreme smoothness of the surface; to overcome this inconvenience, roughen the surface with sand-paper before putting on the Label. This is a quick process on the tops of Tin boxes; but for Labeling upon the sides of boxes, or cans, the quickest way is to have the Label made long enough to go more than around, the extra part being blank, or without printing, to allow the other end to lap over it, and all is right, even with common paste.

2. Wetting the Tin with common white-wash and wiping off, after it is dry, roughens the Tin about equal to sand-papering, as the lime corrodes the surface somewhat.

LACQUERS. Deep Gold and other Colors.—Alcohol 1 pt.; seed-lack, 3 ozs.; tumeric, 1 oz.; dragons blood $\frac{1}{4}$ oz.

Put all in a bottle and digest (to soften by heat and moisture) for a week, shaking frequently, and filter.

Lacquers are used on polished metal, etc., to prevent rust and for producing different shades of color.

2. For Yellow.—Turmeric, aloes, saffron, and gamboge are used.

3. For Red.—Annatto, or dragon's blood.

4. For Tin.—Color shellac varnish with turmeric for brass color; and with annatto for copper color.

5. Pale Lacquer for Brass.—Alcohol, 2 gals.; Cape aloes, cut small, 3 ozs.; pale shellac, 1 lb.; gamboge, 1 oz.; or in these proportions,--*Scientific American*.

Place the articles in a bottle with the alcohol, and shake occasionally until dissolved. Then let settle and pour off, or strain. Used to prevent tarnishing from exposure; and generally applied while the Brass is warm.

6. Lacquer, or Varnish for Polished Iron, or Steel.—Mastic, in grains, 10 ozs.; gum camphor, 5 ozs.; tears of gum sandarack, 15 ozs.; elemi, 5 ozs.; alcohol, 1 gal.

Put in a suitable bottle or can, and digest, or keep warm, shaking frequently until dissolved; and if too thick for use at any time, add alcohol. It will preserve Iron, or Steel from rust, and not obstruct their brilliancy.

LACTIC ACID IN DYSPEPSIA.—Lactic Acid in doses of 20 drops, to be taken in $\frac{1}{2}$ an oz. of water, is reported to be highly useful in those forms of Dyspepsia which resist alkalies.

LARD RENDERING: to be Almost Free of Scrap and very White.

—Take water, $\frac{1}{2}$ pt.; and saleratus, 1 table-spoonful.

Dissolve the saleratus in the water in the kettle you are to try out your Lard in; then put in the Lard—this quantity will be sufficient for an ordinary dinner pot, or 1-pail kettle full. The Lard will be very White, and scarcely any Scrap will be left, as the Saleratus dissolves out all the Lard, leaving hardly any of the membrane that covers the leaf, and the Lard will keep better also. It will smell a little soapy when it first begins to cook, but do not be afraid, it will come out nicer and whiter than any you ever Rendered before—pure and free from any unpleasant flavor.

LAWN—To Make and Seed.—The making of a Lawn on our prairie soil is a very simple process. In the first place, the surface must be deeply plowed, or spaded and smoothed down, and rolled. It is then ready for seeding. We may mix say, 2 qts., of timothy, 2 qts., of clean blue-grass (or its equivalent in the chaff), 1 lb., of white clover, and 4 lbs. of red clover for an acre. After sowing, pass over it with a light harrow, or stir the soil with a steel rake, and again roll. This last operation is very important, as the soil must be compacted on the seed and the surface left smooth. The quantity of seed, as given above, is abundant, if the soil is properly prepared. It must be borne in mind that, in seeding a Lawn, it must be done very early in the season, or we make a failure. The better plan is to prepare the Lawn in the Autumn, and seed in March, or April, just before the frost is out. We then run no risk. If we do the work in the Spring, no time is to be lost after the frost is out. The blue-grass, which is to be the main reliance for the turf, will require 2 years, at least, to make a good turf; in the meantime, the timothy and red clover will make a good showing, and by the 1st of May the Lawn will present a good appearance. The red clover is a biennial, (lasts only 2 years—from *bis*, twice, and *annus*, a year) "and, if not allowed to go to seed, will be entirely out at the end of the second year."—*North-Western Christian Advocate*.

If I had not known this *sealing* to be as applicable to timber-land sections of country as to the Western prairies, I would not have given it an insertion.

1. LEATHER PRESERVATIVES, Applicable to Boots and Shoes, Harness and Belts—German Method.—The *Shoe and Leather Reporter* translates a Receipt from the *Gerber Courier* which it says insures great durability to Leather, and also makes it very pliable and soft; and especially adapted to Boots and Shoes, Harness and Belting. It is as follows:

"Tallow, 21 parts, melted in a vessel, to which is added rosin, 3 parts, and melted and well mixed together. In another vessel is put 70 parts of pure rain water and 7 parts of good washing-soap, added and dissolved by bringing to a boil; then add the first mixture, and again bring to a gentle boil when it is ready for use." Apply only what will enter the Leather within a reasonable time.—Any measure, or weight, as a table-spoonful, or an ounce, or $\frac{1}{4}$ oz. may be taken to designate the parts, as they are called in the Receipt.

2. Water Proof for Boots and Shoes.—The *Scientific American* says that "one of the very best compounds known to us for rendering Leather, Boots and Shoes almost perfectly Water-Proof, and at the same time keeping them soft and pliable is composed of:—

"Fresh beef tallow" (suet), "1 lb.; yellow bees-wax, 1 oz.; shellac $\frac{1}{2}$ oz.

"Melt the tallow first, and remove all the membrane from it; then add the bees-wax, in thin shavings, and when it is melted and combined with the tallow, add the shellac, in powder, and stir until it is melted. Bees-wax is one of the best known preservatives of Leather. Apply warm, to sole and upper, with a rag, or sponge, before the fire, or stove, to soak in the compound, being careful not to burn the Leather. If the Boots are blacked" (polished) "before the application of this preparation, they will remain black and shining for a long time after it is applied. * * * * *

A liberal application of this every two weeks, during Winter, will keep Boots and Shoes, that are worn daily, Water-Proof, and soft."

3. Substituting mutton suet, the same quantity, for the beef tallow, this will make an excellent composition for preserving and softening Harness. The Harness, after washing and drying may first be blackened with shoe-blackening, then apply the above.

LEATHER BELTS—To Cement.—A strong, or thick solution of Russian, Isinglass is the best thing to use for this purpose, for common dry rooms. If the Belt is clean and free from oil, and the Cement put on hot, whether Leather, or cloth, it will hold, if weighted until dry.

LEATHER, BRONZE COLOR—To Make.—The light Leather that children's shoes are made of, resembling Bronze in color is made as follows:

Logwood, and red-sanders of each, 1 lb.; water, 1 gal.; alum, 1 oz.

Boil the dye-woods 1 hour in the water, strain and add the alum, and sponge the skins with the clear liquor.

LEATHER—To Fasten to Iron Pulleys.—It is quite often necessary to enlarge an Iron Pulley to increase the speed. First, then paint the Pulley with a good coat of white lead paint, and let it dry; then use common glue, or the LEATHER BELT CEMENT, above, and there will be no difficulty in making the Leather stick to the Pulley.

LEMONADE POWDERS.—Pulverized sugar, 3 ozs.; citric acid, $\frac{1}{4}$ oz.; oil of Lemon, 5 drops.

Thoroughly mix the articles, bottle and cork, to keep from the air. A rounding teaspoonful of the mixture to a $\frac{1}{2}$ pt. tumbler of cold water makes a pleasant Lemonade.

LEMON CREAM.—Squeeze a large Lemon, and grate the peel, add $1\frac{1}{2}$ cups of water, and heat it over the fire. While it is heating, rub 2 table-spoonful of corn-starch smooth, and beat the yolks of 3 eggs; then stir the Lemon-water gradually into the corn-starch, add the egg, and set it on the fire to thicken gradually, like boiled custard. After it is done beat the whites of the eggs stiff and stir them in; then pour into small tumblers, or Lemonade glasses and set them in the ice-chest to get very cold by dinner time.

They are delicious! Try them.

LIME IN THE EYE—Remedy.—It is quite often that Lime is got into the Eye of those who are working among it. As soon as possible, then, drop in water made very sweet with sugar.

LIGHTNING-RODS—Best Material for—Form, Attachment, and Ground Connection.—The fact as to the importance, or necessity of putting Lightning-Rods upon all buildings to protect them against Lightning, was too long ago conceded to call for any argument to establish that position; hence I may enter at once upon the consideration of the

Best Material of Which to Make Them.—Considering the cost of Material, copper has been conceded to be the Best Material of which to Make Them, as the small amount needed in a Rod, does not greatly exceed the cost of other metal, especially when the corrosive nature—tendency to rust—of iron is considered, especially when it is considered that copper is over 7-times the better conductor. The points should be plated with gold, or silver.

Best Form for Lightning-Rods.—And I am aware of the fact that some

men claim that electricity passes *wholly* upon the surface, while there are others who claim that it is only *static electricity*—electricity at rest—that always disposes itself upon the surface, but that *active electricity*—electricity in motion—pervades, or passes through the *entire substance* of the bar, or Lightning-Rod; hence the *quantity* of metal, as well as the *kind* of metal are important items of consideration in the construction of Lightning-Rods. Upon the fact as to the *quantity* of metal, a celebrated French chemist—Pouillet—has shown this point in a very decisive manner. He measured the conducting power of a fine wire of cylindrical form—the form that presents the least possible surface in proportion to its cubic contents—and then having flattened and annealed it, he tested it again. Its surface was enormously increased, but its power to conduct electricity was considerably lessened. An experiment equally decisive and perhaps somewhat more easily performed, is at the command of every one who has access to a small electrical machine and a 2-qt. Leyden jar. Take a fine gold wire, say one fiftieth of an inch in diameter. This wire will present nearly the same surface as a ribbon of metal 1-32 of an inch wide. The wire will carry off, without being injured, any charge that can be imparted to the jar. If, however, we pass the charge through a strip of gold leaf having several times the surface of the wire, it will be completely burned up.

Then, although it would appear that the *round Rod* would carry off more electricity than the flat form containing the *same amount of metal*, yet for convenience of carrying about and of putting up, the *flat copper-strip* has been conceded, in this city at least, as the *best form* that can be used—the width of the strip being adapted to the size of the building—two, to two and a half inches being considered sufficient for a common dwelling-house, or barn.

Manner of Attachment.—The manner of Attaching Lightning-Rods to the building has received considerable attention; and it has been conceded that it is not at all necessary to isolate them, but with staples of iron, or a flat bit of iron to go across the flat copper-strip, and thus tack directly to the building—not isolated at all. The one put upon the tower of the 1st Presbyterian Church, in this city, is put upon the sheeting before the slating was put on. There is said to be no danger of the electricity leaving the Rod. If, however, there are metallic roofs, iron, or tin gutters, iron railings, etc., the Lightning-Rods must be connected with them, to carry off all electricity that might otherwise accumulate, or be received from the storm-clouds, which would endanger the building. And there is another point in the arrangement of the Rod that is of great importance. I refer to the height that a Lightning-Rod should extend above the roof, or the highest part of a building; and here, again, the French have settled this point for us, as the French Academy of Science, after first having recommended that Lightning-Rods need not extend more than from 9 to 12 feet above the roof; but their further experiments proved that a Lightning-Rod was only capable of protecting a space covered by a *radius* equal to twice the height of the Rod above the most elevated part of the building," i. e., that a Lightning-Rod will protect a space, sideways, upon the roof, only *twice* the distance of its *height*, so if a Rod is carried up 12 feet high, it will protect 24 feet, each way, upon the roof. This will enable any man to tell whether he would prefer *one*, or *more*, to ensure his whole building.

Ground Connections.—Notwithstanding the *material* of which the Rod is made may be the *best* in use, and that its *height* and *attachment* to the building may be *faultless*; yet, if it is not properly connected with *wet*, or *damp* earth, it is *worse* than none at all; for there may be better inside conductors than the dry earth with which the Rod is connected, then, of course, the Lightning will leave the Rod for the inside, endangering life as it passes. Then:

As iron is a better conductor than water, if you are in the city so that you can connect with *gas*, or *water pipes*, do so by all means; but if neither of these are near you, the next-best thing is to dig a hole 6 to 10 feet in depth (unless you have permanently wet earth at a less depth), and run the Rod to the bottom of it, then rivet it to a sheet of copper, at least 2, or 3 feet square, and put a few inches of earth back upon the sheet of copper; then put in a tube-like box to come to the top of the ground, to admit water to be occasionally poured in to keep up a moisture around the plate, then fill in the earth, or what would be perhaps as well, fill up the hole with cobble-stones and use the place as a sink-hole which will always keep it wet at the bottom. If there is a bathroom connected with the house, the water from that might be led into this place, either of which plans will prove successful; but unless some of these plans are adopted, the Rod must be carried down to *permanently moist earth*, which is not reached short of a level of the water in the wells of the vicinity. The common practice of driving a crow bar down a few feet is not at all reliable—it may terminate in dry sand, or other soil; but even if it did not, the amount of surface at the bottom is too small to be of any service whatever. These facts have been gathered from various *Scientific* sources which can be relied upon as practicable.

LINIMENTS.—Liniments are employed in frictions upon the skin, or by wetting flannels in them and laying upon inflamed parts that are too tender to allow them to be rubbed in; and they are often taken internally in sore throat, colic pains, etc. They are especially valuable in rheumatism, quinsy, sprains, bruises, painful swellings, etc. They both act as counter irritants, and as strengthening lotions. Alcohol usually forms the base, or foundation for Liniments, proper as it dissolves gums and essential oils, of

which most of them are composed; but there are others which are more of a soapy nature, correctly speaking an opodeldoo (the first part of the word *opo* being joined with balsam—*opo-balsam*, designating a thick vegetable juice; hence, Theophrastus Paracelsus, who Webster says, "liked to coin arbitrary and unmeaning names," applied the name *opodeldoo* to a thick kind of soapy Liniment, which is composed of soap, camphor, oils, ammonia, and perhaps turpentine and alcohol, as will be seen below, either of which may be used according to the circumstances calling for them as deemed best.

Nye's Liniment, for all Sprains, Bruises, Fresh Wounds on Man, or Beast, also for Rheumatism on Man and Croup of Children.—The title of this Liniment is certainly long enough to justify the expectations that the Receipt itself should be a good one. It is from a gentleman who has been a long time in the *livery* business, and consequently had much to do in the line of *farricery*, knowing from experience whereof he affirms; and further, the *nature* of the articles used, and the *strength* in which they are prescribed, will also justify any one to expect it to prove valuable:

1. Take alcohol of 90 per cent, if possible, 1 gal.; camphor gum, $1\frac{1}{4}$ lbs.; oil of origanum and spike, of each, 4 ozs.; British-oil, 8 ozs. Mix together and keep in a warm place, shaking occasionally until the camphor gum is dissolved, then add the contents of two beef's galls. Shake when used.

2. If it is desired to use it as a *blistering* Liniment, for Horses, upon Sprains, splints, curbs, or wind-galls, add to 1 qt. of the above, 4 ozs. of the tinct. of capsicum, and 2 ozs. of tinct. of cantharides, and apply as other blistering Liniments. I think it would be well to add 4 ozs. of the tinct. of capsicum to the first, when made, even to use for common purposes. It certainly makes a powerful Liniment. It will be seen that it contains 6 ozs. of camphor gum to 1 qt. of alcohol, which is very strong *camphor spirits*, aside from the other articles. With the tinct. of capsicum, as I recommend, above, it would excell Davis' or any other Pain-killer.

Mr. Nye gave me the history of a bad case of Croup, where it was used with such great success that even one of the Professors of the University, who had been called to the case, asked him for the prescription—he gave him the articles used, but not the proportions. Of course it may be made in less quantities; but druggists will do well to keep it on hand.

3. **Scarret's Liniment, or Black-oil for Poll-Evil, Fistula, etc.**—The word *Fistula* signifies a pipe, or narrow opening into some fleshy part. In case of horses it has more particular reference to a swelling upon the withers, or shoulder of the animal with a *Fistulous*, or pipe-like opening, commonly called a "thistelow," but we have no such word—*Fistula* is the word proper to be applied in all such cases, whether on man, or beast, physicians speak of *Fistula-in-anno*, meaning a pipe-like opening along side of the *rectum*.

To make the Oil, or Liniment, which will be of a dark color, or Black:

Take currier's oil, 5 ozs.; oil of spike, 3 ozs.; oil of vitriol (sulphuric acid), 2 ozs., all fluid measure.

An old pitcher is a good thing to mix them in, so it can be poured into a bottle handily after mixing. First put the currier's-oil and the oil of spike together, then, from time to time, put in a little only of the oil of vitriol, for if all is put in at once it may foam over, and set free so much heat as to break the pitcher, or bowl in which it, is to be made. To apply to a *Fistula*, saturate cotton, that is, wet it as we' as it will hold, and press it to the bottom of the pipe. My neighbor, Mr. Ingalls, of whom I obtained it, says he has taken out the pipe of an extensive *Fistula*, by two applications only; then keeping the saturated cotton in the sore for 3 weeks made a perfect cure of what had been considered an *incurable* disease.

Scarret, the originator of this Liniment, or Black-Oil, was an old English *farrier*, who had to leave his country for his country's *good*, and traveled extensively in this country, successfully practicing his profession.

4. **Brown's Liniment.**—Gum camphor, $\frac{1}{4}$ oz.; alcohol, linseed oil, spirits of turpentine, aqua ammonia, tinct. of capsicum and oil of origanum, of each, 4 ozs. Mix. This has proved a very valuable Liniment for general purposes.

5. **White Liniment—Thick.**—Sweet-oil, 2 ozs.; aqua ammonia, 1 oz.; spirits of turpentine, $\frac{3}{4}$ oz.; spirits of camphor, $\frac{1}{4}$ oz. Mix.

This makes a kind of cream-like mixture of very great importance. My wife had been complaining, for some little time, of a rheumatic difficulty in one of the shoulders, making it painful to sweep, or do any of the ordinary choring about the house; and I made up the above amount, and applied it, I think, only 2 nights and mornings, heating it in well by the stove, which perfectly cured the rheumatism. Soon after this a sister of hers was visiting her, and suffering with a similar affliction; but a few applications, in a similar way was equally successful in her case—my wife says it is the best Liniment she ever used.

6. **Wart Liniment.**—A gentleman of reliance tells me that he once cured 3 warts upon a horse by the application of

Spirits of turpentine and sweet-oil, equal parts of each, applied daily, for a month only.

One was situated where the collar chafed it. another upon the back part of the fore

leg, so that it was chafed by the girth until it sometimes bled, and the other upon the nose so that the nose-strap of the halter chafed it. All I can say is this, I have not a doubt of the fact, but if so simple a Liniment would cure them, certainly any of the stronger and more complicated Liniments would do the same thing.

7. Soap Liniment, or Opodeldoc.—White bar soap, 2 ozs.; camphor gum, 1 oz.; oil of rosemary, 3 drs.; oil of origanum, $\frac{1}{4}$ oz.; aqua ammonia F F F strong, 1 oz.; alcohol, $1\frac{1}{2}$ pts.

Shave the soap fine, and put it into the alcohol, and digest on a sand-bath, or keep in a warm place until the soap is dissolved, then add the other articles and put into wide-mouthed bottles. It cools to a soapy, or half solid mass—called Opodeldoc, which Prof. King considers much superior to the common article called by that name. It is used to relieve pain in swellings, rheumatisms, bruises, sprains, sore throat, and in fact wherever a Liniment is applicable.

8. Lethian Liniment, or Opodeldoc.—Dr. Tilman Douglass gives this name (*Lethian*, which means, to induce forgetfulness of pain), to the following preparation:

"Digest a bar of fresh turpentine soap, and gum camphor, 4 ozs. in alcohol, 1 gal. in a jug, or bottle in the hot sun, or warm place, for two weeks; and, while hot bottle in 4 oz. large mouthed bottles, to each of which put in chloroform, 1 dr., and shake occasionally while cooking, as it coagulates, like opodeldoc.

"The mode of applying it is, to coat the part well, and cover it immediately with paper, which will adhere firmly, and produce a gentle burning, tingling, sensation, which, in neuralgia, rheumatism, irritability of the stomach, cramps, colic, etc., is perfectly delightful."—*Memphis Medical Recorder*.

If there is any difficulty in getting the turpentine soap, take the common nice white bar soap and add oil of turpentine, 4 ozs. with the camphor. And it will do just as well to set the jug, or bottle in a warm place in the house, as in the sun—the object is warmth to dissolve.

9. Neuralgia Liniment.—Alcohol 95 per cent, spirits of turpentine, sulphuric ether, chloroform, laudanum, and gum camphor, all liquid measure except the camphor, of each, $\frac{1}{2}$ oz.; oils of cloves and lavender, of each, $\frac{1}{4}$ oz. Mix, and keep corked.

This will be found a very valuable Liniment for Neuralgic pains of the face, or any other part. If the pain is not relieved by rubbing it on; wet a piece of brown paper with it, and hold on as long as can be done without blistering. For decaying and painful teeth, apply with lint and rub upon the gums. For internal pains, as of colic, pains in the stomach, etc., take from 10 to 30 drops in a little sweetened water, or spirits and water, according to the severity of the pain; and repeat in 15 to 30 minutes if necessary, until relieved. It will be found a valuable Liniment for any and all purposes for which Liniments are used, and if it was not a little more expensive than the common Liniments, it would be more generally used, no doubt.

LIQUID PHYSIC, OR COOLING PURGATIVE.—This preparation has been highly recommended, under the name of *white Liquid Physic*, or *Davis' Physic*. The following is the prescription:

"Take sulphate of soda (glauber salts), $\frac{1}{2}$ lb.; water, $1\frac{1}{2}$ pts.; dissolve, and then add nitro-muriatic acid*, 2 fl. ozs. and powdered alum 1 dr. and 8 grs."

Dose.—A table-spoonful in a gill of water 3 times daily. It is to be taken by drawing through a joint of reed, elder, glass-tube, or a large straw, so it shall not come in contact with the teeth. In dysentery it is to be given every hour until it operates slightly; then every 3, or 4 hours—rinse the mouth, after each dose, with a weak solution of saleratus water, or a little baking soda dissolved in water, which neutralizes the acid, and saves the teeth from its corroding effects upon them. It is used as a cooling purgative whenever there is a feverishness present, also in colic, diseases of the liver, diarrhea, as a substitute for mercury. The advantage of the sulphate of soda, is, that it is "an efficient, cooling and laxative, or purgative, promoting secretion and exhalation from the membrane of the stomach and intestines without causing inflammation or fever, and the acid acts upon the liver also without causing inflammation. "In intermittent fever," says King, "given in laxative doses, it has proved highly beneficial, especially when occurring in broken-down constitutions, and has cured the most obstinate cases of dysentery."

LOCKED-JAW—Cured with Tobacco after a Lock of 40 Hours.—Aaron Baker, of Mount Vernon, Ind. gave the history of a case of Locked-Jaw, to the *Scientific American*, which was published in that paper, Aug. 28, 1869, as follows:

"MESSRS. EDITORS:—Reading in the late papers the account of the recent death of the Engineer Roebling from *tetanus*, or Locked-Jaw, reminded me of an incident in the military campaign of a friend, a Major in the 10th Indiana cavalry during the late war, and which he, only a short time ago, related to me, among other events of his soldier life.

"In view of the late unhappy event, above mentioned, I deem it worthy of being generally known, as his remedy is very simple, quick, efficacious, and obtained almost anywhere. It would, in the above case, have certainly saved the life of a very useful

*Nitro-muriatic acid is ordinarily made with twice as much of the muriatic (usually called hydrochloric) acid as of the nitric, but for the preparation of this Liquid Physic they should be used, says King, "in equal proportions."

man. The Major's command was then—Christmas 1864—in middle Tennessee, near the Alabama line. One of his men was wounded slightly in the foot, hardly serious enough to go back a few miles to the nearest hospital; and, as the command was after a short march, to go into Winter quarters, and not wishing to leave the command he concluded to press on with it. The consequence was he took cold in his wounded foot, and *tetanus* ensued" (set in) "before they reached their Winter quarters. All their surgeons and assistants had been left at various hospitals, and the hospital-Steward, knowing nothing better to do, had made arrangements to abandon the man as hopeless, to die at a plantation. The Major casually learned his condition, and as it was a case of life, or death, anyhow, or rather certain death, he resolved to try an experiment, and save a life if possible. The man had had the Locked-Jaw *more than forty hours*, they had no medicines along, useless if they had, and the Major's only resource was a plug of navy Tobacco. He cut off a square of it, it was about 3 inches square put it in a mess-pan with boiling water until it was heat through, and saturated" (soaked-full) "with the water; taking it out he allowed it to cool, so as not to blister, then flattening it out, he placed it on the pit of the man's stomach. In about 5 minutes the patient turned white around the lips, which also began to twitch—the man was getting very sick" (then I think was the proper time to have taken off the Tobacco) "—and in 9, or 10 minutes the rigid muscles relaxed, and his jaws fell open. Indeed, it seemed as if the patient would fall all apart and go to pieces, so utterly was his entire muscular system relaxed. The Tobacco was immediately removed and some whisky gruel" (gruel with whisky in it) "was given to stimulate him. Next day the man was taken along in an ambulance, and in a few days, mounted his horse, all right, as bold a "soger boy" as any. So much for a dead man.

"It seems necessary, in this disease to produce nausea, or sickness of the stomach, to cause the rigid muscles to relax. It is very difficult, or almost impossible, to administer internal medicines, and some external application become necessary to produce this nausea, and this is furnished by the Tobacco. The Major found, afterwards, that damp Tobacco applied to any part of the body, would produce sickness, but, much more quickly, of course, when applied over the stomach."

"[We give the above for what it is worth. The remedy proposed is one of great power, and would need to be used with extreme caution, to avoid fatally narcotizing the patient.—EDS.]"

It is a well known fact that the editors of the *truly scientific paper*, above named, are as *cautious* in recommending a powerful article to common use, as they are *exact* in all their scientific problems, or items, which fully accounts for their caution as to the use of the Tobacco in Locked-Jaw; but when we consider also that it is equally "well known" that this disease is not only, a very dangerous one, but that it is almost always, a *fatal one*, hence, I think that notwithstanding their caution is well meant, it will have a tendency to make people *over-cautious*, which I also think will be shown by the following statements of scientific physicians.

BEACH says:—"There is no disease which is treated with such a variety of medicines as the Locked-Jaw. There are as many different applications as there are physicians, none of which seem to have much effect."

This I take to be almost equivalent to saying that nothing can be done, although he recommends attention to the wound, from which it generally arises, steaming it over *bitter herbs*, slippery-elm *poultice*, etc., and the *vapor-bath*, all of which are very well, so far as they go; but they will not generally go far enough to save the patients life.

WARREN says:—"The only known remedies for this disease are *chloroform* and *ether*, taken either into the stomach, or by inhalation, in quantities to control the spasms, and to be pursued as long as they continue to occur. The costiveness must be removed by 1, or 2 drops of croton oil, administered in a spoonful of gruel."

SCUDDER says:—"Opium and chloroform seem now to be our principal remedies, as they give ease when all others fail. Opium may be given in doses of 5 grs., or sulphate of morphine in doses of 1 gr. Chloroform, however, answers a better purpose; as by its continued use we can control the spasm and pain. Anesthesia" (sleep, or insensibility to pain) "need not be deep, but should be continued as to prevent a return of the convulsions. Nicotine" (the poisoning principle contained in Tobacco) "has been used in Dublin with more marked success than has attended a *stronger agent*, and I will certainly try it, should I be so unfortunate as to have another case. It is given in doses of one drop, in wine, and repeated as often as may be necessary to control the convulsions, and if need be, the dose is increased to two drops, and if rejected by the stomach, it may be used as an enema" (injection). "Cases are reported, in which it is manifest that the remedy exerts a marked controlling power over the disease, which may be rendered curative, with proper care.

"It must not be forgotten that the patient needs sustenance" (strength from food) "through this prolonged muscular action and pain. It should be given in the form of rich animal broths and milk, with a sufficient amount of brandy. If it cannot be taken by the mouth, on account of the convulsive action, it should be used as an enema."

These last instructions as to maintaining the strength of the patient, are very important, and correspond exactly to the course pursued by the Major, in the above case with his *whiskey gruel*; but they also show that Prof. Scudder is not satisfied with any

former plan of treatment, but was ready to try the *Nicotine*, as soon as a case should offer; and I most cheerfully recommend him and all others to try the *tobacco*, using, however, judgment and care as to the length of time it is kept on, for if the full relaxation is not obtained at first, it could be put on *again*, thereby saving all risk of *over-doing*—sustaining the strength and counteracting the tendency of the Tobacco to produce *extensive* prostration, by the use of the *whiskey*, or *brandy*, *beef-tea*, etc., etc., according to the conveniences at hand, with which I consider the Tobacco not only *perfectly safe*, but decidedly the *best* article now known for Locked-Jaw.

MASTURBATION (Onanism—Self-Polution).—Webster says that Masturbation comes from the Latin *masturbari*, to practice Onanism, probably from *manus*, the hand, and *stuprase*, to defile, or pollute; literally meaning then to defile, or pollute with the hand. The practice, however, is not Onanism, properly understood, but the result being the same, and its sin of such a character as to have called upon God for Onan's destruction. The habit has drawn upon itself this disgraceful name by those, probably, who did not fully understand the difference. Onan was the *second* son of Judah, who *refused* to raise up a family name to his elder brother, etc., whose sin had caused his destruction at God's hand. The record of Onan's destruction is in the following words: "And the thing which he did displeased the Lord: wherefore he slew him also." The history of the whole matter is found in the 38th chapter of Gen.

There is no habit of vice, probably, which works a greater, or a more terrible and lasting injury upon the body and mind of the youth of our land than that of Masturbation. And were it not from the fact of its being begun so early in life that the children, girls as well as boys, do not realize its great sinfulness, before God, as well as the fact that it will utterly destroy both body and soul; and also that parents are not aware of the great extent of its practice, I should not have introduced the subject into this Work. But from the publication of my *first* book, I have had hundreds of letters, I believe I may say thousands, of inquiry to know how they can get rid of the consequences of this terrible evil which they have brought upon themselves before they knew what the consequences would be. The consequences are so awful, and the prospect of cure so feeble and unpromising, I dare not refuse to lift a warning voice against it in this public manner, and to put parents upon their guard to instruct the youth under their charge, that it will utterly enfeeble both body and mind, and in the end lay very many of them in an early grave, or leave them with a dwarfed and enfeebled mind, and perhaps in a lunatic asylum, for the balance of their unhappy lives. The time was when God came out in *judgment* and cut off the wicked in their wickedness; but latterly, He leaves them to suffer on through life, with weakness of body and mind—the consequences of their *ignorance*, or of their *wickedness*.

"The fact that the ceremony of marriage has been performed, will not save people from the consequences of *venereal excesses*. The laws of our nature remain the same; and if violated, we must suffer the consequences. Hundreds and thousands are hurried into a premature grave, or made wretched while they live, by diseases induced by these excesses, with no knowledge as to their causes." "The practice of Self-Polution" says Beach, "pervades all ranks, male and female. Professed Christians are often among its victims. Sometime since, says Mary S. Gove, 'I became acquainted with a lovely and intellectual young man, who was a student in one of our *theological* seminaries. His health became so poor that he was obliged to leave the seminary and

return to his friends. I saw him lose his *reason* and become a *maniac*. I was satisfied from all the symptoms in the case, that *this sin* was the cause of his wretched condition. He died without recovering his reason, and a friend of his, who was in the seminary with him, told me, after his decease, that he was indeed a victim of '*solitary vice*' (Masturbation) "that it caused his death."

If this sin could get such a fast hold upon one who had once vowed to love and serve God, need we have a doubt that it is at the bottom of the failing health of many of those young men who now-a-days, as well as in this case, have to leave our *colleges* and *universities*, and finally compel them to abandon a literary course of life, in which they might otherwise have succeeded beyond many of their fellows—indeed the knowledge which my opportunities have placed before me puts it beyond a doubt.

Prof. John King, of Cincinnati, O., in his extensive work on "Chronic Diseases," says that "in the course of the last 28 years, I have treated 2,751 males and 117 females, whose ailments were brought on by this habit; and in addition to this, during the same length of time, I have received communications from *more* than 4,000 persons, victims of Self-pollution, who did not come under my treatment, either because I could not promise quick cures, or, for pecuniary, or other reasons. I state this to show the prevalence of the vice, and its evil results, although denied by many practitioners, who ought to know better."

Physicians although knowing the cause of weakness and failing health of the young persons whom they are called upon by parents, to prescribe for, dare not tell the parents for fear of giving offense and thereby losing their practice.

Beach gives an account of one. He says: "A short time since I was conversing with a physician who seemed to feel deeply on the subject. "But," said he, "what can be done? I dare not offend parents by telling them the habits of their children. I was called to a youth who was destroying himself by this practice, but I dare not mention it. The parents would have been very angry if I had."

A man who is afraid to fulfill the duties of his position as a physician, or any other position as a morally responsible man, is not fit for the office, or relation which he holds.

Dr. S. B. Woodward, superintendent of one of the N. Y. hospitals for the *insane*, makes the following remarks upon the practice of this evil. He says: "For the last *four* years, it has fallen to my lot to witness, examine, and mark the progress of from 10 to 25 cases *daily*, who have been the victims of this debasing habit, and I aver that no *cause whatever*, that operates on the human system, prostrates all its energies, *mental, moral, and physical*" (relating to the body), "to an equal extent. I have seen more cases of *idiocy* from this cause *alone*, than from *all other* causes of insanity. If insanity and *idiocy* do not result, other diseases, *irremediable and hopeless*, follow in its train, or such a degree of imbecility" (feebleness of body, or mind) "marks its ravages upon body and mind as to destroy the happiness of life, and make existence itself wretched and miserable in the extreme."

With a knowledge of these facts before me, let me ask if I should do my whole duty in writing this "Second Receipt Book" if I did not lay these facts before my readers? And let me also ask my readers if, since they now know the awful consequences of this terribly de-

structive habit, I may not reasonably hope that a very great amount of suffering may be, and will be avoided by giving heed to these instructions?

But the consequences of this base habit are so wide spread and terrible, I do not feel like proceeding to its symptoms without having quoted the following sensible remarks from "Warren's Household Physician." He says: "There is probably no vice to which so many boys and young men, and even girls and young women, are addicted, and from which so many constitutions break down, as from Self-pollution. Small boys and girls learn the vile practice of the larger ones at school, and generally continue it up to maturity without the least suspicion that they are afflicting upon themselves either a moral, or a physical injury.

"This comes of the *false modesty*, and *bastard morality* which withholds from the young, all knowledge of the proper functions" (especial work, or adaptation) "of their *sexual organs*, and of the inconceivable mischief resulting from their *abuse*. A gentleman of distinction lately said to me," says Dr. Warren, "'I instruct my boys as faithfully on this subject as upon any other moral, or physical question, and I tell my wife it is her duty to do the same with the girls.' This is wise. Yet, how few parents ever speak to their boys, or girls on the subject, or give them the least reason to suppose that there is any better rule for their conduct than their own desires!"

The reason of this neglect, I am aware, arises more from diffidence, or delicacy than from a want of interest upon the subject, and partially also for a want of knowledge as to the result, or consequences to the children, by this neglect. Let such, not only read and ponder well this whole subject, but place, also, such knowledge in the hands of their children, and point out this matter for their especial consideration as early in life as they can read and reflect upon any subject whatever.

Symptoms.—While sprightliness, vivacity and activity are the leading characteristics of the young who do not indulge in the habit of Self-pollution; upon the other hand, those who do, will be found dull, weak, inactive, and feeble, a burthen upon themselves and their friends; indolence, restlessness, melancholy, and forgetfulness, weak back, headache, indisposition to study, loss of confidence in themselves, not willing to look any one in the face, languid and pale countenance, desire to be alone, etc., etc., and in females, hysterics, perhaps, whites and all of the attending Symptoms of general weakness, and debility; nocturnal, or night emissions are frequent because the enfeebled organs are not able to retain the seminal fluid that, even, their *dreams* of indulgence cause to be produced; and in cases where this abuse is carried to its fullest extent, the drain upon this, the most vital part of the system, is so great, that the whole person, physically, morally and mentally, becomes a wreck—the nerves tremulous, memory gone, the gait feeble from failing strength, the mind becoming confused, and finally chaotic, or idiotic, the insane asylum, or an early grave closes the scene; far worse even than most other evil practices, or habits that if once given way to, it is *very* seldom abandoned; and the consequences are as certain as their continuance; for as long as the indulgence is permitted no *treatment* whatever can give any considerable relief; and it is a difficulty, or self-produced disease,

that treatment can seldom hope to give any relief—not the least hopes of it unless the habit is absolutely abandoned.

Treatment.—The last, above remarks hold out but very poor prospects of its being of any use even to speak of Treatment at all:—Why? For the plain and simple reason, that the indulgence draws upon the *nervous* system to such an extent that it is broken down, and almost absolutely destroyed, and the nature of the human organization is such that, if the nervous part of the system is destroyed, the *whole foundation* is destroyed—in other words there is nothing to build upon; and I care not what the Treatment may be, if the habit is still indulged in, the difficulty will become worse and worse, in spite of the Treatment; and even if it is given up, the improvement must necessarily be more slow than in convalescence, or recovery from any of the ordinary diseases, as they do not so extensively destroy the nervous influence which must be brought into an active condition to build up the health from the prostration of any disease.

Then although it will be extremely difficult for the person to restrain themselves from the indulgence, the mental and moral nature being completely broken down, the heart deadened to all sense of moral obligation, and the *will* too feeble to resist temptation, or to execute any determination for amendment, it will be a hard thing to abandon the habit, yet, it must be done, or no hopes of improvement can ever be expected.

Parents, or whoever the responsibility of the case may rest upon, must do every thing that can be done to give strength to the moral nature of the patient, the same as with a child; for their minds will often be found weaker to resist temptation in this particular direction than that of the merest child. The sin of lascivious thoughts even, must be pointed out, and all such thoughts must be driven from the mind; and the opposite sex must be thought of only in a virtuous sense, with a consideration of the moral obligations that we are all under to be virtuous, even in thought, as before Him who knows, and will hold us responsible even for our thoughts, for “he that looketh on a woman to lust after her hath committed adultery with her, already, in his heart.” This must not be, but rather, let a plan be followed that I have seen suggested by some writer, whose name I cannot now remember, whenever one of the opposite sex comes into your presence, or passes before you, let a thought of prayer be at once addressed to the throne of Grace, for their welfare, and for help to enable yourself to resist any temptation to evil thoughts that might otherwise arise.

Employment of some kind that will have a tendency to engage the mind will be very necessary to success.

Daily bathing, or sponging the surface, in moderately cool water, or spirits and water will greatly aid the restoration of the external secretions; and washing the private parts twice daily, morning and evening, in cold water, will have a tendency to check the circulation of blood there, and thereby turn the mind to other considerations.

The food also should be of the most nutritious character, but only in quantities that will allow of perfect digestion.

And while some physicians recommend, to young men, the cultivation of the acquaintance of some virtuous female for the sake of company and sociability, to lead their own minds from the subject of their evil propensities, I have been in the habit of recommending an

entire different course, *i. e.*, to supply one's self with a few books that shall be calculated to lead the mind to a realizing sense of one's responsibility to God, and to the world; and also to take a sufficiency of vegetable food, preparatory to a hunting excursion into the backwoods, where hunting may supply wild game in abundance for the table. The hunting gives the necessary amount of exercise, and the entire absence of female company, together with the reading of moral and religious books, not novels, many, if not most of which are calculated to excite the sexual passions rather than to restrain them, having a companion, also, if possible, who knows the condition of the patient, that he may help to lead the mind out after God, and consequently to a virtuous course of thought, and by this means, I have succeeded in establishing a habit of thought that has, in many cases, triumphed over the difficulty.

When this course cannot be taken, it must be approached as near to as possible at home. The plainest food must be used, roasted, or broiled, lean meats, with only the common vegetables, may be eaten, which are of the easiest digestion, so that the system shall obtain the most nourishing support, from the least possible amount of food, as every power is weak, and requires the greatest care to commence and follow up a course that shall establish and carry out a plan of recruiting and building up the system, which will, of course, give strength to the moral sense of right.

As to medicines, only those that will help to correct any condition of an unhealthy character, and to tone up the general health, is about all that can be used with any hopes of benefiting the patient. I say patient, because one who is in this condition, although he, or they, may be up and about, yet, they are in a *worse debility*, than one with a sound constitution, who is just recovering from a severe fit of sickness; for his debility, as I have before stated, arises from the great draft that has been made upon the *nervous* system.

As to medicines, such articles must be used as will meet the wants, or indications of the system—if the bowels are *costive*, such articles of food, or medicine must be used as will correct this difficulty—if the urine is *scanty*, or *high colored*, a diuretic will be needed—the bathing, or sponging will help to correct the parched and dried up condition of the surface; and as there is known to be great weakness and debility, a *tonic* will certainly be required; and if there is costiveness, as well as weakness present, the *CHOLAGOGUE*, which see, may prove as good as any. If need be, however, the *rheubarb* may be dropped from it, or so much of it as will just keep the bowels regular; or, if preferred, $1\frac{1}{2}$ oz. of of the red, or best Peruvian bark, coarsely ground, together with 1 oz. of cloves and cinnamon, may be all put to 1 qt. of any good domestic wine, or "port" if no domestic is at hand. This might however be prepared in larger quantities, say 1 gal., keeping the same proportions of the other articles, as this tonic will have to be continued for some time.

Dose.—A wine-glassful, half an hour to an hour after each meal.

3. And if there is *considerable* debility present, there may be prepared the following stimulating tonic to use before the meals:

Aromatic spirits of ammonia, tinct. of Jamaica ginger, chloroform, and sulphuric ether, of each $\frac{1}{2}$ oz. Mix.

Dose.—Put 20 drops of this to half a glass of milk, or slippery elm water, to be taken just before meals.

4. In cases where the habit has been indulged in for such a length of time that nocturnal emissions—night emissions of seminal fluid occur, involuntarily *i. e.*, without an actual repetition of the indulgence at the time; but from its so frequent previous repetition such a condition of the system has been established, and the mind has so often also, been led into that train, or course of thought, that, during the hours of sleep, it again falls into libidinous, or lustful thoughts, or impure dreams of sexual indulgences; and the habit, with some, has been allowed to have such full control for so long a time, these night emissions do sometimes occur involuntarily, even after the person has realized the terrible condition he is in, and does the best he can to think of other things, and to change his mind and thoughts to a virtuous and correct course of action. In such cases the following pill may be prepared and taken:

Gum camphor pulverized, 30 grs.; salvy extract of belladonna* 5 grs.; oil of cubebs, 25 drops. Mix, and make into pill-mass by using equal parts of pulverized gum Arabic, and pulverized cubebs, and divide into 30 pills.

Dose.—One pill may be taken 3 times daily, one being taken at bed time.

In conclusion, I would say to parents, you must not let your sons, nor your daughters remain in ignorance of the terrible consequences arising from these indulgences. Dr. Warren says: "It is plainly your duty to enlighten and to warn them. It is a matter in which young persons are generally disposed to do right, if rightly instructed. Avail yourselves of your right to give counsel, and, if need be, to use authority."

If physicians, or parents need, or desire any further instructions upon this subject, they will find an exhaustive exposition of all the different conditions, in Prof. King's "Chronic Diseases," which can be obtained by addressing him, at Cincinnati, O., the work, however is expensive, \$15, but it contains 1,600 pages, and there is no other work, to my knowledge, half so valuable, or full; and the expense is nothing to be compared with the advantage to be derived from it, in cases of extreme debility arising from these "Self-abuses," and yet, the nature of many of the articles called for, in that work, for this disease is such, that it would be of the utmost importance to have the case Treated by a physician, even with that valuable work before him; and, I will again say before closing, that unless the person will wholly and totally abandon the habit, he need never expect to be benefitted by any course of Treatment whatever—tis an impossibility—and even after its abandonment, and the commencement of a correct course of action, and a correct course of Treatment, the amendment will be slow—very slow—sometimes making one believe that they are not improving at all. But suppose it is, it is the only *right* course, and must be held on to, until time, and the re-cuperative powers of the system, with the aid of tonics, alteratives, etc., have again established a fair condition of health—an absolute restoration to perfect health, if the habit has been long indulged, need never be expected.

**Atropa Belladonna* is also known by the names of *deadly nightshade*, *dwale*, and from the little black fruit it produces is also called *black cherry*. It is a native of Europe, but we have it growing in gardens, and other rich soils, calling it *garden nightshade*. It is, in large doses, an energetic poison; but in small doses it acts kindly upon the nervous system, and gives tone to the involuntary muscles, and hence, is valuable in treating the above difficulty.

Such being the terrible consequences of an indulgence, for any considerable length of time, in this rightly named habit—"Self-abuse," or rather "Self-pollution," could I be excused, if I had passed over this subject without having lifted a warning voice against it, notwithstanding its extreme delicacy? and as I close, I will say to all youth who have not already commenced it, *let no amount of persuasion from older companions lead you into it*; and to those who have been led into its evil practice, *abandon it at once*, as you hope for any degree of health in this world, or for the "Joys of the world to come."

MEASLES.—This is a disease peculiar to childhood, although those who do not have it when young, are liable to take it even in adult age; for instance, I well remember that my own mother had the Measles at the same time myself and several of the other children had them.

Cause.—It is a contagious disease, or in other words, it is "catching." And as children have them easier, generally, than adults, or grown persons, I deem it best not to make any especial effort to prevent children from taking them; but, after a known exposure, to observe proper precautions against taking cold, which is liable to increase the danger; and as Winter or Spring is generally the time of their prevalence, there should always be great care to clothe warmly, and to avoid exposures to storms, or cold. Persons who have the true Measles, seldom, or never have them again, although, I have heard persons claim to have had them the second time. The disease appears in from 7 to 14 days after an exposure, occasionally, it is believed to have not made its appearance until considerably later.

Symptoms.—Measles begin much like a cold, or catarrh in the head, with chilliness, or shivering, thirst, restlessness, perhaps sneezing, hacking, dry cough, headache, dulness, sore throat, sickness of the stomach, and sometimes vomiting, with a discharge of mucus from the nose, and tears, or running of the eyes of a scalding character, the eyes and general surface of the face, neck, and breast, and perhaps the whole surface more, or less swollen; for the disease is a *true inflammation of the skin*. The eyes will not bear the light without irritation. This condition will continue 3, or 4 days, with considerable fever, when, on the 4th day, the eruption, much resembling flea-bites, makes its appearance, being slightly elevated from the general surface, so as to give a rough feel to the skin, if the hand is passed over it. These specks appear first upon the forehead, in half-moon shaped spots, extending to the neck, and then around the nose and mouth and finally over the face, and the 5th day upon the body, and the 6th upon the legs and arms, and sometimes upon the arms by the 5th day. If every thing passes on comfortably, the eruption will begin to disappear after 3 to 4 days from its first appearance, or in from 8 to 10 days from the commencement of the disease, entirely disappearing in 2, or 3 days from the time it begins to disappear, when the scarf-skin begins to come off in dry dandruff-like scales. It will subside in the order of its appearance—disappearing first where it first appeared, continuing to decline in the same way. If cold is taken, there may arise inflammation of the stomach, lungs, or bowels when the eruption may disappear, sooner than it should, causing a greater danger in the case.

To distinguish Measles from scarlet fever, remember that in the latter the whole surface takes the scarlet-blush, while in Measles the distinct little red spots are, at least for a time, sure marks by which

to distinguish one from the other; and the inflammation, in Measles, causes a *red* appearance of the skin, while in scarlet fever, the blush, or tint of the surface is more of a yellowish shade, and the latter disease will produce its characteristic appearance on the 2d day, and Measles not until the 4th. See SCARLET FEVER.

As a general thing, from the 9th to the 11th days, in Measles, there will arise a looseness of the bowels, profuse sweating, or vomiting, by which the poisonous matter arising from the disease is carried, or thrown from the system, which, of itself, would naturally indicate the course to be pursued in the treatment.

After a known exposure of a child to Measles, if the same course is pursued as recommended in the treatment of *scarlet fever*, to put the child into the best possible condition of health, it will be of the utmost practical advantage in the treatment of the case.

Treatment.—In ordinary cases of Measles the Treatment should be very simple and mild. In the first place when there are any symptoms indicating the approach of the disease, let care be taken to avoid exposures to cold, damp, or wet, which would be likely to increase the severity of the disease, and if the above precautions have been observed, but little danger need be apprehended. Soak the feet in *hot* water for half an hour; and if the room is warm and comfortable, and if it is not, it should be made so, then, at the expiration of the half hours' soaking of the feet, remove the clothing and wash the whole surface with hot water, and soap, or some weak-lye in the water, as most convenient, then rub, or wipe the little patient dry and place in bed, covering sufficiently to keep perfectly comfortable, and give a tea of saffron and Virginia snake-root, or the pleurisy-root, *asclepias tuberosa*, in place of the snake-root, or it would be all the better to use equal parts of each with the saffron, which will act as a diaphoretic, tending to produce sweating, or rather tending to cause the disease to make its appearance upon the surface and to hold it there; **SUDORIFIC, OR SWEATING TINCT.** which see, may be used; and at night let a mild cathartic be given, the sulphur and cream of tartar mixture is perhaps as good as anything, to cleanse the bowels, and carry off any offending, or poisonous matter that might accumulate there from the disease. And the cathartic may be repeated every second, or third day, at least, and it may be repeated more often if deemed best. With this course, keeping the patient warm and comfortable, avoiding exposures to cold drafts of air, the eruption may be expected to make its appearance in its regular time; and even then, the same Treatment may be continued, gently, to keep the eruption to the surface. But should the cough be troublesome, half as much of lobelia herb, may be used as of the other articles, in the tea, giving it once in an hour, or two, which will correct, as far as it may be done, that difficulty. Yet, any of the expectorants may be used in place of the lobelia, by those who think its taste too nauseous, but none other is equal to it in all respects.

But, in case of *considerable fever*, the **FEBRIFUGE**, which see, may be given in doses to suit the age of the child, if the child is 5 to 7 years old, the tea-spoonful dose may be given every 2 hours instead of every half hour as there directed for an adult; and this may be continued until the fever has been largely reduced, at the same time, sponging the surface, and using the hot foot-bath, to aid in lessening the fever and to induce a favorable turn of the disease; and if there is a craving for cold water, it may be given in small quantities at a time, and

if it is acidulated with lemon juice and sweetened a little, it will be all the more grateful and beneficial; keeping the patient, however, comfortably covered, in bed, avoiding every possible exposure to currents of air.

In case of severe bronchial, or throat inflammations and cough, besides the expectorant Treatment, the vapor of vinegar and water may be inhaled, and a little paregoric, or laudanum may be put in also to assist in allaying the irritation of the throat; and a few drops of the tinct. of lobelia might also be dropped into the inhaling fluid, with great advantage.

If the eruption does not come out readily, in any case, at first, or recedes, from taking cold, a mustard plaster over the stomach and bowels, together with the hot foot-bath, and hot teas, will be found very efficient in establishing it.

It is necessary also in Measles, to be very careful to avoid all exposures to cold, even for some considerable time after the disease has subsided; for the danger is greater in this, than in almost any other disease, of complicating an inflammation of some particular organ, and leaving perhaps a permanent deafness, weakness of the eyes, or cough, or some other complication difficult to remove; then, if "It is better to prevent disease than to cure," it will certainly hold good here.

If from any exposures during the progress of Measles, by which cough becomes pretty firmly established, Prof. Scudder thinks that a tea made from *clover hay*, or the tinct. of *drosera*, 1 dr. to water, 4 ozs. given in tea-spoonful doses every 4 hours, "will be found much better than the ordinary cough medicines in use."

For a description of the *drosera*, see the 1st note on page 129, and the case of cough in chronic bronchitis connected with it, page 128. If the clover is at hand, a tea can be readily made with it, and used according to the severity of the cough. But, if great care is taken in clothing children warmly, and in not permitting them to expose themselves to drafts of air, nor to have damp or wet feet, and the bowels, and skin, are kept in a healthy condition, during the progress of Measles, and for some time after, there is but little more danger in this disease than from any other.

2. A Case in Point.—The Prof. in a recent No. of the *Journal* gives a "case in point." He says:

"A child of my own had Measles, during one of the worst epidemics" (a disease peculiar to a people, nation, or city—equivalent to epidemic, reaching many people) "we ever had in this city, and as a sequel" (consequence, or result) "had that persistent irritation of the bronchii" (bronchial tubes), "with cough which is so unpleasant, and so frequently fatal.

"After an ineffectual use of the ordinary means, I put her on the tinct. of *drosera*, $\frac{1}{2}$ oz., water, 4 ozs.; a tea-spoonful, 4 times a day. Was entirely relieved in a week, or 10 days; and though the cough would return with every slight cold for a year following, it was always speedily relieved by the same remedy.

"I have now prescribed the *drosera* in scores of cases, and never think of prescribing anything but that, or the clover hay."

MUMPS.—Mumps is an inflammation, which causes a swelling of the parotid glands (parotid comes from Greek words signifying near, or beside, and the ear) which are situated pretty close under the ears, just at the upward bend, or angle of the lower jaw. These glands

assist in furnishing the saliva for moistening the food and aiding in its digestion.

Mumps are most common with children from 7 years and upward; but younger children are liable to them, so are adults, who miss them in childhood; and they may occur upon one side only, or upon both sides at once; but if they occur only upon one side, at first, the person is liable to have them again, but upon the other side.

Cause.—Contagion, or taking it from others, the same as measles, small-pox, etc.

Symptoms.—There are generally catarrhal Symptoms manifested, at first, together with soreness and swelling of the glands at the bend of the jaw, which may become so much swollen as to make swallowing, and even breathing, difficult, the pain also being considerable; and both the swelling and pain may increase for 4, or 5 days, making it sometimes difficult even to open the mouth. Some persons think it may be distinguished from quinsy, or other swellings of the gland, or glands from a cold, by the sharpness of the pain in the gland caused by taking vinegar into the mouth, if it is Mumps. The swelling will not show much for the first day, but will increase for 4, or 5 days, then decrease, and perhaps entirely disappear in from 8 to 10, or 12 days; and after the swelling begins to subside on the one side, it may arise on the other, which is quite often the case; but, as before remarked, it may be wholly confined to one side.

If the swelling and pain are great, there will be fever and its attending Symptoms—quick pulse, dry skin, constipation, high-colored and scanty urine, furred tongue, etc.

If any exposures to cold are allowed to take place the swelling and pain are liable to be translated, or transferred from the neck to the testicles of the male, or the breasts of the female (the words coming from the Latin *trans*, over, or across, and *ferre*, to bear; hence our word ferry, no doubt, to carry across a stream). To save this complication, avoid taking cold; for the *treatment*, of this complication of Mumps, see the explanation under the head of CAMPHOR AND ITS USES.

Treatment.—The patient must be kept warm and comfortable, better in bed than about the house. Perspiration should be aided by the use of warm teas, and if any considerable severity, soaking the feet in hot water. If costive any mild cathartic may be used; and the swollen glands may be covered with cotton, or flannel bandages wet with any good liniment 3, or 4 times daily, applied warm, as cold applications increase the pain for a time. Dr. Beach recommends the following liniment, for this purpose, as particularly applicable:

“Castile-soap, scraped, 1 dr.; oil of sassafras, $\frac{1}{2}$ oz.; sweet-oil, 1 oz.; camphor gum, 3 drs. Mix and apply three times a day, warm.”

My own experience and practice leads me to the use of spirits of camphor alone, used freely; and in case of translation, as above spoken of, to the breasts of females, let them be kept perfectly wet with the spirits of camphor, by covering the cloths, by which means it is applied, with oiled silk, to prevent the evaporation; and in case of small boys, it may be applied in the same way to the swollen testicles, keeping the cloths perfectly wet, until the swelling begins to subside. In very severe cases, the hot bath, or regular sweating process will help to reduce the inflammation, with anodynes to allay pain, as paregoric, or laudanum in proper doses according to age.

It need not be expected that any Treatment can cut the disease

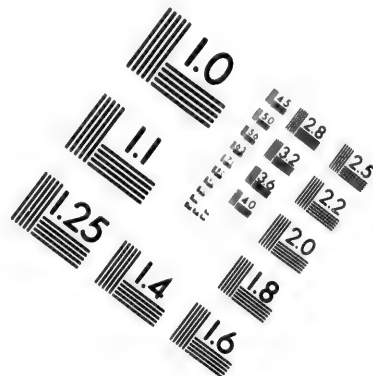
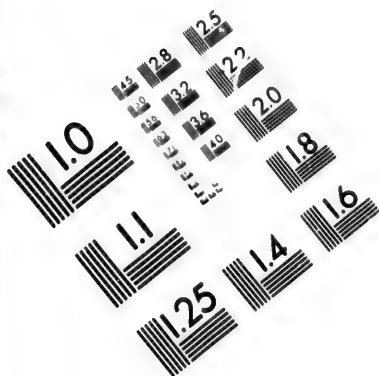
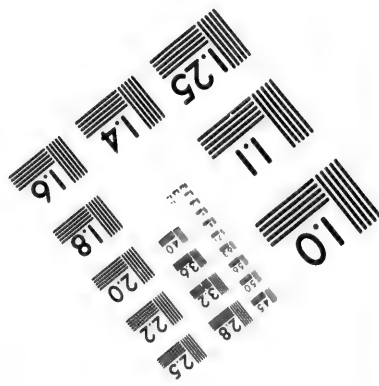
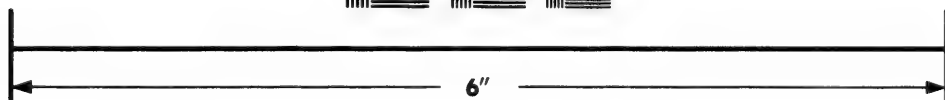
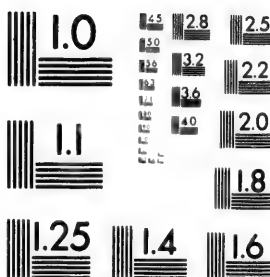


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short of its regular course, all that should be attempted is to keep the patient as comfortable as possible, and to meet any unusual manifestation, promptly, by the use of such remedies as would be applicable in ordinary cases for the same condition, or manifestation of disease.

M. MISCELLANEOUS RECEIPTS. M.

MAHOGANY—Imitation.—The surface of any close-grained wood, or wood, the grain of which has been properly filled, may be made to imitate Mahogany, after planing and smoothing, by rubbing it with a solution of nitrous acid; after which applying with a soft brush, a mixture of alcohol, 1 pt., in which 1 oz. of dragon's blood and $\frac{1}{4}$ oz. of sal-soda have been dissolved; polished as usual.

2. Cold-Pressed linseed-oil is good as a renewer, when polishes diminish in brilliancy.

MANURING COMPOSTS, ETC.—General and Special Instructions.—There are but few subjects of greater interest to the farmer and gardener, than that of Manuring; and in this day of *honest*, as well as *dishonest activity*, in selling Manuring "Composts," and Receipts which pretend, at least, to tell how to make them, it is well that those of our agriculturists, who most need Manures, and who are therefore, the most liable to be deceived by the advertisements in some of the agricultural papers, should have something reliable to depend upon, whereby they may save their money in not purchasing the *three and five dollar Receipts*, with which but few, at least will be satisfied, should they obtain them. I am glad to be able to say, however, that there is occasionally an agricultural paper which will not advertise such Receipts. The following item upon this subject, is from the *American Agriculturist*, printed by Orange Judd & Co., 245 Broadway N. Y. one of the most reliable monthlies upon the subject of agriculture that we have in this country. It says:

We see continually in the agricultural papers very attractive advertisements of *secret Receipts*, for sale for \$1 to \$5, for compounds which will restore fertility to worn out land, bring orchards into bearing, drive away insects, save labor, produce great crops, and do wonders generally, for the farmer. We are often pressed to advertise these things and always refuse. Not because the vendors of the secrets are not, or may not be honest, and not because the Receipts are worthless, but because the real information is readily obtained from other sources at a much lower price, and because the effects are *always* overstated. A judicious mixture of *lime and salt*, with *ashes and bone-dust*, will do wonders almost any where, if properly applied. The admixture of *hen dung*, or other highly nitrogenous Manure will greatly increase the effects. Any of our careful readers ought, we think, to be able to make a Compost for grass, potatoes, corn, or roots, out of the above ingredients which would be worth more than any one of these 5-dollar Receipts.

2. Utilizing Bones, for Manure.—As Bones seem to occupy a prominent place in nearly all of the Composts, I shall endeavor to give the easiest method of softening or dissolving them to make them available; and in the *first place*, in order that there may be Bones on hand to dissolve, place a box, or large cask, at some convenient, but out-of-the-way-place, for their reception, and then throw all that are found on the place into it, first having put a layer of wood ashes upon the bottom; and when a complete layer of Bones covers the ashes, put on more ashes, and so keep on until you have enough for a large kettle full on hand, wetting each layer of ashes as they are put upon the Bones, which will cause, to some extent at least, their disintegration (decomposition, or begin to dissolve them), so that it will take less boiling to ultimately dissolve them. In this way, if there is a dead horse, or two on the farm, by carelessness, or old age, there may be quite an accumulation, yearly, of this valuable help in making up the Manure or Compost-heap for future use.

And in the neighborhood of the villages and smaller cities, if the boys are given to understand that a *cent a pound* will be paid at some certain place for all the fresh Bones (which is less than Compost manufacturers pay for them in the large cities by the hundred tons), hundreds of pounds may be gathered yearly. Old Bones, however, which have bleached by sun and rain are of but little value. When a sufficient amount has been saved, say 1-barrel, or thereabouts, put some of them into the large kettle which has been set for general farm purposes, and put in more fresh ashes, with a peck of fresh stone-lime for each barrel of Bones; then cover with water, and boil moderately for a couple of days, or until you see that all, except the hard shin-Bones, perhaps, have become softened so as to easily pulverize, or mash into a salvy consistence, which will allow them to be easily mixed with muck, loam, ashes, and hen, or other Manure, according to what you desire to use it for, or the quantity you may have; if in large quantities, mix it into the general Compost-heaps, for grain lands; and if only in small quantities, with hen Manure, for the garden. This will be found just as satisfactory, and considerable less expensive than to dissolve Bones by the use of sulphuric acid, as the manufacturers of Composts do; for the farmer buying it (the acid) in small quantities, would have to pay much larger prices than the manufacturers who buy it by the ton.

3. But, if there is no kettle on the place suitable for dissolving the Bones, as above, it still may be done very satisfactorily, by using about half as much sal-soda as lime, breaking up both, rather finely, and mixing in with the Bones and ashes, as they are

placed in the box, or cask, as above recommended, wetting and keeping the mass wet from 6 to 10 weeks, will have the same effect as the 24 hours boiling. It will require about a barrel of sound, unleached wood ashes for each barrel of Bones. If the box, or cask is tight to prevent leakage, so much more will be saved; and the more ashes, lime and soda are used the quicker will be the process; but, it would also require a larger amount of muck, loam, or fine earth to be mixed with it before applying to crops, such as corn in the hill, or sowing upon wheat, or other crops. Undoubtedly, however, the better and more economical way to use this Compost is to mix it with a sufficiency of muck, leaves, and barn-yard Manure, then spread upon the ground and plough it in and mix it well with the soil, which will soon, nearly double the amount of crops which may be raised to an acre.

4. Value of Salt as a Manure.—Extensive experiments have been made with common Salt as a Manure, until it is well settled that Salt will hasten the ripening of wheat several days, bringing it on before the rust will effect it, gives a more plump grain, brighter straw, etc. It is recommended to use it in quantities from 2 to 4 bushels to the acre, sowing just before seeding, and harrowing it in with the seed, or before seeding if the seed is to be drilled in. For other crops sow after the ground is broken, before harrowing.

5. Value of Wood Ashes for Wheat.—Experience has also shown that Wood Ashes, in quantities of 6 to 8 bushels to the acre have a decidedly marked effect; they push the Wheat ahead the same as salt, several days, thus getting it ahead of the rust, while they also strengthen the stem, making it less likely to "lodge," or fall down, after which it seldom fills well. Ashes are certainly valuable upon, or mixed into the ground for any crops, and especially valuable in proper quantities around fruit trees.

Where Bones cannot be had, either of the above articles, will in a measure, substitute them; and the salt might be mixed, with advantage, into the Compost-heaps where Bones are used.

6. Value of Poultry, or Hen Manure.—Actual experiment has shown "That the droppings from 4 Brahmas for 1 night weighed in one case exactly 1 lb., and in another more than $\frac{3}{4}$ lb., an average of nearly 4 ozs. each bird. By drying, this was reduced to not quite $1\frac{1}{2}$ ozs. Other breeds make less; but allowing only 1 oz. per bird daily of dry Manure, 50 fowls will make, in their roosting house alone 10 cwt., per annum of the best Manure in the world. Hence $\frac{1}{2}$ an acre of poultry will make more than enough Manure for 1 acre of land, 7 cwt., of guano being the usual quantity applied per acre, and Poultry Manure being even richer than guano in ammonia and fertilizing salts. No other stock will give an equal return in this way; and these figures demand careful attention from the large farmer. The Manure, before using, should be mixed with twice its bulk of earth, and then allowed to stand in a heap, covered with a few inches of earth till decomposed throughout, when it makes the very best Manure which can be had.—*Scientific American*.

This item I think will go to prove the Brahmahs the best fowl for Manure, while under the head of FOWLS—THE BEST FOR EGGS, AND GENERAL PURPOSES, it will be seen that they are possessed of other valuable qualities also.

7. Value of Swamp Muck for Composting.—The following statement is from the *Hearth and Home*, another agricultural paper published by Orange, Judd & Co., of N. Y., and shows the importance, as seen by agriculturists, of Swamp Muck as a Manure, and the manner of making the most of it, or in other words, of turning it to the best account. It says:—

"Gathering Manure should be the work of every day during the year, not otherwise occupied. There cannot be too much Manure on hand. Where farms in good condition and carrying a fair allowance of stock, this work is a matter of routine, and is constantly in operation. But where the farm is poor, has been "run down," and is now in process of recuperation, it is a matter of anxiety and labor to make the most of all sources, of fertilizing matter. Where a deposit of Muck is at hand, the matter is simplified. To a poor farm it is like a "bank deposit" to a poor man. His draughts are there instantly honored. Almost any day of the year one may dig Muck, and a goodly pile may always be in course of preparation for his Compost-heap. The stables should be spread with it six inches deep; only, however, when well cured, and dry, and pulverized. The cow-sheds should be abundantly supplied with it, and the cows should be kept up at least during the night, if not during part of the day, and foddered with green feed. The fowl-house should be liberally spread with it, and it may be put a foot deep in the hog-pen, to be turned over and over by the animals. An earth-closet should be supplied with it, and a pile of it should receive all the kitchen and chamber slops. When all these demands are supplied, pile up a quantity of Muck and mix a bushel of freshly slacked lime with every load of it, taking care to cover up the lime with several inches of the Muck. Salt, or brine, in small quantities will make a valuable addition, as it will hasten its decomposition and increase its usefulness. When you have plenty of Muck prepared and well mixed and rotted, spread it on the meadows at any time of the year when you have the opportunity; dress the orchard with it, put it on the garden, give 20 loads per acre to the ground you have in preparation for wheat, and harrow it in immediately before sowing. By following this plan it will not be long before the farm will be enabled to carry more stock, which will give more Manure. Many

farmers will say, on reading this, "How can I manage to do it?" we have not the time, nor the opportunity; it is every day's work with us to get along as we are doing. We would say to such, "You are farming too much land." Leave a portion without cropping, or in grass, plow less, and take the time saved to collect a pile of Manure, which you will spread on a smaller piece of ground than usual, and give such attention to this matter as we recommend; gradually enlarge your bounds year by year, and you will soon discover where the profit comes in. Commence at once; a week's, or a month's time saved in the commencement may save a year's time in results.

For further confirmation as to the importance of Composting, see **MODEL FARMER.**

8. Manure to be Spread as Hauled Out.—There is no question but what manure should be spread as it is hauled out. Either spread it from the wagon, or have some one to do it at once; otherwise the rains will soon leach out more than the proper portion of its strength where the heap lies; and experience has shown that oats have "lodged" upon those spots the first year after, and wheat the second year also, besides rusting, only in those rank places—therefore spread your manure as it is hauled out.

9. Poor Land to "Bring up" in the Absence of Manure.—There is much natural poor land, or land that has been worn out, in sections of country where but little stock is kept, and hence it becomes important to "bring up" such land to a condition that will allow "cropping" to be continued, or resumed, as the case may be. I will suppose, however, that corn was the last crop; and that the amount raised hardly justifies the idea of another crop without an effort at recuperation. According to the size of the field, then, begin to plow in June so that all shall be ready for sowing to buckwheat early in July; and as the crop is about half blossomed, or just as it begins to blossom, if you have a large field, begin to turn it under, so as to get it all plowed in before any seed has matured. If it is well turned in, it may lay 2 to 3 weeks before harrowing and cross-plowing; but if it was not well covered, better harrow at once, then wait a couple of weeks before plowing again; and if you have any manure at all, it might be spread on the most barren knolls before this plowing. Now spread evenly from 20 to 25 bushels of freshly slacked lime to the acre, and thoroughly harrow in; when, if the ground is quite poor, it would be better to sow it to rye, which is not so exhaustive as wheat, but if judged to be of sufficient strength it may be drilled with wheat; and the following spring seeded to clover, with not less than 1 bushel to 4 acres. Don't pasture this after taking off the wheat, or rye; but the next year it may be pastured, and the following summer, the sward should be turned in at about the same time the buckwheat was, after which it will bear wheat, successfully. In this way, with care to put on more than is taken off, with deep plowing, "Poor Land" may be brought up "Without Manure."

MAPS—to Mount upon Muslin.—To mount maps upon muslin, take the muslin, cut to the size desired, and lay it smoothly upon a table, or board made for the purpose, and sponge it with water until it lies smoothly upon the table; now paste the map and lay it upon the wet muslin; then place a paper upon the surface and carefully rub it from the center until all the air, and wrinkles are out. When it is dry it will leave the table without trouble, and remain perfectly smooth.

MATCHES—without Sulphur.—Professor H. Dunsane, of New Lebanon, N. Y. tells us, through the *Scientific American*, that—"These fancy matches are easy to prepare. The wood must be dried, rather than by the ordinary process; the ends of the matches must be heated until they seem a little burned; then you have a flat-bottomed dish sheeted with tin, or lead, on which is melted stearic acid, about $\frac{1}{8}$, or $\frac{3}{4}$ of an inch deep. Put the ends of the matches in this bath and a little of the greasy liquid is absorbed by capillary attraction, penetrating all parts of the wood. The matches are then dipped into a paste composed of phosphorus, 3 parts; gum Arabic $\frac{1}{2}$ part; water, 3 parts; sand, 2 parts; brown oxyd of lead, 2 parts; coloring matter, 1 part. These matches develop the light with more rapidity than those made with sulphur and do not emit any bad smell, for the wood and grease burn at the same time. The cost is about the same; for where you would use 10 lbs. of sulphur, only 1 of stearic acid is required."

2. Another composition is phosphorus, 4 parts (read ozs., grs., or lbs., as you please), niter, 10; fine glue, 8; red ochre, or red lead, 5; smalt, 2.

Soften the glue with a little water, in a dish of water by heat, to a smooth jelly; then pour into a warm porcelain mortar, and when cooled to 140°, or 150° rub the phosphorus with the glue until intimately mixed, then add the niter, lead, and lastly the smalt, mixing each into a uniform paste. These do not crack, on using, like those having the chlorate of potash in them—are not "percussion." The chlorate of potash being exceedingly explosive, requires the greatest care if used.

3. Matches without Phosphorus—To Stand Rough Handling.—A patent was taken out in Sweden for making matches without phosphorus, as follows:

"Chlorate of potash, 5 parts; bichromate of potash, 3 parts; oxyd of lead" (litharge) "1 part—ground together in a solution of gum-Arabic, to form a paste.

"The splints are prepared in sulphur as usual; then dip the same as though phosphorus was used; but by the phosphorus having been left out the match will not ignite without rubbing upon a rough emery surface, or sand paper, or ground glass, saving all danger of self-ignition by Rough Handling."

MEAD.—There are many drinks got up now-a-days called "Mead;" but the genuine article, as originally used among the northern nations of Europe, was made by dissolving honey in 3 times the amount of water, and adding a little ground malt, and a piece of toasted bread which had been immersed in yeast, flavoring with spices to suit, and allowing it to ferment. The following, however is more in accordance with the present custom.

2. Mead.—Honey, 3 gals.; water, 1 bbl.; oil of nutmeg, $\frac{1}{2}$ oz.; oil of lemon, 1 oz.; yeast, 1 qt.

Bring the honey to the boiling point; being careful to lift it off, at this time, so it shall not boil over, and pour it into the barrel; and in 30 minutes add 1 gal. of cold water and the oils, and yeast, and fill up the barrel with water. After fermentation it will be ready for use.

MEATS—Curing, Smoking, Drying and Keeping.—Mr. R. M. Conklin, in the *Country Gentleman*, gives the following sensible method of curing and keeping Hams:

1. "After cutting out the Hams, they are looped by cutting through the skin so as to hang in the Smoke-room, shank downwards; then take any clean cask of proper dimensions, which is not necessarily to be water-tight.

Cover the bottom with coarse salt; rub the Hams with fine salt, especially about the bony parts; and pack them in the cask, rind down, shank to the center, covering each tier with fine salt $\frac{1}{2}$ inch thick; then lay others on them letting the shank dip considerably, placing salt in all cases between each Ham as they are put in, and between the Hams and the sides of the cask; and so on, putting salt on each layer as before directed; giving the thick part of the Ham the largest share. As the shank begins, more and more, to incline downward, and if this incline gets too great, put in a piece of pork as a *check*. I let them lie 5 weeks, if of ordinary size, if large, 6 weeks, and then Smoke them in my

2. Handy Smoke-House.—"I have constructed a Smoke-Room over my kitchen, in the garret—made dark—and so as to admit Smoke from the chimney. Here I hang the Hams and let in Smoke until they are Smoked enough, and this completes the whole operation; nothing more is done—no securing against flies, for they never enter this dark chamber, and when we want a Ham we go to the Smoke-Chamber and take it from the hook. During a period of 25 years I have not lost a Ham; but before adopting this mode, through careless Smoking, injudicious salting, or from flies, I was constantly suffering disappointment with my Hams. Possibly Hams may have a better flavor by using other ingredients with salt, yet where I have had opportunities of tasting Hams, thus Cured, I confess my inability to detect their superiority."

Where persons are so situated that this arrangement could not be adopted for Smoking, Meat, it would be well to have the Smoke-House large enough to have an *entry*, or double door, so that if flies should get into the dark entry, they would be less likely to get through the second door—thus being able to keep all dark within, keeping a candle handy to use when entering.

3. Another.—Those who prefer the saltpeter, potash, sugar, etc., may like the following plan, recently published and endorsed by the *Scientific American*. I will only add, in regard to it, that in the many experiments with Receipts given by that paper with an endorsement like the following, which I have italicised, at the close of the Receipt, I have not yet found one to fail my expectations. It is as follows:

"To 1 gal. of water, take $1\frac{1}{2}$ lbs. of salt, $\frac{1}{2}$ lb. of sugar, $\frac{1}{2}$ oz. of saltpeter, $\frac{1}{2}$ oz. of potash. In this ratio the pickle to be increased to any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold, pour it over your beef, or pork, to remain the usual time, say 4, or 5 weeks.

"The Meat must be well covered with pickle, and should not be put down for at least 2 days after killing, during which time it should be slightly sprinkled with powdered saltpeter, which removes the surface-blood, etc., leaving the Meat fresh and clean. Some omit boiling the pickle, and find it to answer well, though the operation of boiling purifies the pickle by throwing off the dirt always found in salt and sugar. *If this Receipt is properly tried it will never be abandoned. There is none that surpasses it, if any so good.*"

I have italicised the two last sentences in this Receipt because of their positive endorsement, knowing them to be worthy of confidence.

4. Another.—*The Valley Farmer*, gives a plan for curing Hams, Beef, etc., with the following comments which are largely tinged with Common-Sense. It says:

"Few persons understand the proper ingredients, and exact proportions to make a suitable pickle for curing Hams, Beef, etc. This is the season" (January) "when such information is useful. The desideratum" (the thing wanted, or desired) "is to cure the Meat, so that it will keep in hot weather, with the use of as little salt as possible. Pickle made in the following manner will accomplish this:—

"Salt,—coarse, or alum salt is the best— $1\frac{3}{4}$ lbs.; saltpeter, $\frac{1}{2}$ oz.; molasses, 1 pt., or sugar—brown, 1 lb." (I like the sugar best); saleratus, 1 tea-spoonful; water, 1 gal.; and increase in the same proportions for any amount desired.

"Bring the liquor to a boil, taking care to skim just before it begins to boil. Let the pickle cool, then pour it over the Meat until entirely covered. The Meat should be

packed in clean tight casks, and should remain in the pickle 6, or 7 weeks, when it will be fit to smoke. Green-hickory wood is the best article for this purpose. Shoulders prepared in the same way are nearly as good as Hams. This pickle is just the thing to make nice corned-Beef, or corned-Beef tongues, or any lean Meat for Drying."

5. Meats—Fresh in Summer from Winter Killing.—It is not generally known, notwithstanding it is the fact, that any, or all of the Fresh Meats, Killed in Winter, may be kept Fresh for Summer use. All that is necessary, is to take any kind desired, when properly cooled for packing; but instead of packing, slice up, free of bone, and fry it only sufficient to bring out the fat, sprinkling on a little salt and pepper, as if for present eating, then put it up in large jars, cutting so it shall pack closely as put in, pouring on the hot gravy to fill all the holes between pieces, and the top of the Meat should have, at least, 1 inch of. gravy over it; Fat Meat will furnish its own, but lean, must have it furnished in the form of nice sweet lard, or butter, as preferred. It works equally well with veal and venison as with pork and beef. The only fault I have heard found with the plan, is, that "I did not put up half as much of it as I wish I had." Re-fry when used.

6. Meat—Effects of Heat in Cooking.—A well-cooked piece of Meat, should be full of its own juice, or natural gravy. In roasting, therefore, it should be exposed to a quick fire, or an already hot oven, that the external surface may be made to contract at once, and the albumen (a part much like the white of an egg, containing much of the sweetness of the Meat) to coagulate before the juice has time to escape from within. And so in boiling. When a piece of beef, or mutton is plunged into boiling water, the outer part contracts, the albumen which is near the surface coagulates (changes into a curd-like state), and the internal juice is prevented from escaping into the water by which it is surrounded, or from being diluted, or weakened by the admission of the water into the Meat. When cut up, the Meat yields much gravy, and is nice in flavor. Hence a beef-steak, or mutton-chop is done, (or should be done) *quickly*, over a brisk fire, that the natural juices may be retained. On the other hand, if the Meat be exposed to a slow fire, its pores remain open, the juice continues to flow from within, as it runs out from near the surface, and the flesh shrinks, and becomes dry, hard, and unsavory, or tasteless. Or, if it be put into cold, or tepid water, which is gradually brought to a boil, much of the albumen is extracted before it coagulates, the natural juices, for the most part, flow out, and the Meat is served in a nearly tasteless state. Hence, to prepare *good* boiled Meat, it should be put into water already boiling. But to make beef-tea, mutton-broth, and Meat-soups, the flesh should be put into cold water, and this afterwards very slowly warmed, and finally boiled. The advantage derived from Simmering depends very much upon the effects of slow boiling, as above described.

These are the views of Liebig, and Prof. Johnstone, on cooking Meats, and ought to be heeded by every one, who wishes to appropriate the full strength of the Meat to their own strength.

MILL PICKS—Making and Tempering.—There is, probably no subject which has come under discussion within the last 10 years upon which there is such positively opposite opinions as upon the question whether any solution, aside from pure water, is of any avail, or not, in Tempering Mill Picks. Some claim, and positively assert there is, while others are as positive that there is no advantage in adding anything to the water except perhaps salt, which all rather seem to concede takes off the tendency of water to take the spheroidal, or round form when coming in contact with hot iron, or steel.

Thin and small articles which only require a small degree of hardness, have been, and with the regular manufacturers still are Tempered in oil from the fact that it does not cool them so quickly as water, and consequently does not cause them to warp, or bend in Tempering; and on the other hand where it is desired to cool small articles quickly, to give them a greater degree of hardness than usual, quicksilver is used.

2. The Following instructions from a Mr. Isaac B. Hymer, of Ind. was reported through the *Scientific American*, during the last great discussion upon this subject, and seems to embody so much Common-Sense, drawn as he says, "from many years experience as a miller and bullder of *Fench-burrs*," that I have concluded to let him settle the question for my readers. He says:

"In the first place, get double refined cast-steel, made expressly for Mill Picks. Be careful in drawing out the Pick not to heat the steel higher than a cherry red. Use an anvil and hammer with smooth faces. When finishing the Pick do not strike it on the edge, but hammer the Pick on the flat side, striking light and often, until the steel is quite dark, letting the blows fall so as to close the pores of the steel. If the last blows strike the edge of the steel, the Pick will fly and 'spawl' off. When a dozen Picks are ready to Temper, get 2 gals. of rain water, from which the chill should be taken, if in Winter, by dipping a hot iron in it, add 2 lbs. of salt, which dissolve, and your bath is complete. Heat your Picks gradually from the center, and let the heat run to the point, and when it is a *dark cherry red*, dip the point of the Pick vertically" (perpendicular) "into the bath and hold it still, not moving it about to find a cool place. When the heat has left the part immersed, take it out and cool the balance of the Pick in ordinary water used in the shop. This process should be repeated on the other end of the Pick. When

taken out of the Tempering bath the Pick will look silvery white. The use of the salt is to clean the scale from the steel and make it tough. With the edge made by this process the Pick will cut clean, clear, and fine, such a cut as millers need for 'cracking.'

3. The long continued controversy which this paper had opened by publishing its disbelief in the use of "solutions" for Tempering Mill Picks, was closed in the following words:

"Of artificial solutions we have no end. Most of our correspondents believe in putting salt in the water, but those who advocate this, base their approval on the fact that it seems to prevent the spheroidal state which takes place in pure water, and thus the water adheres more closely to the steel and cools it more rapidly. We are willing to concede this *mechanical* action of salt, but it is evident that it would not do for such grades of Temper in steel as can only be obtained by slower cooling. Indeed some tools are best Tempered in water with the chill taken off.

"On the other hand, we have plenty of letters from practical men who are convinced that *all* solutions are better replaced with pure water.

"One gentleman of very long experience and every way a *practical* as well as a *scientific* mechanic, takes this ground; and, in addition to his own experience, furnishes us with the experience of N. P. Ames, late of Chicopee, Mass., who, some 35, or 40 years since, succeeded in making sabres, swords, and cutlasses in this country, that would stand the U. S. Government tests. After expending much time and more than \$3,000 in experiments with various 'solutions' and baths, he found that heating in a charcoal fire, hardening in *pure spring water*, and drawing the temper in a *charcoal flame* was the best practice.

"A correspondent writes us, from Chicago, an interesting letter in favor of the pure water practice, which we should be glad to publish, as he evidently has based his views both upon study and long practice; but our friends who favor 'solutions' might deem us partial as we publish nothing on their side of the question. This writer seems to have 'touched hard pan' when he says: 'Let co-laborers discard all superstitious solutions, incantations, etc., and pay more attention to how they *heat steel*, before hardening, and, my word for it, they will soon lose trust in solutions.'

"Finally, we consider that *chemical reactions do not take place in the act of hardening and Tempering steel*, where those terms are understood to mean the process of hardening steel by sudden cooling after heating it and subsequently drawing the Temper by heat. This being the case, we see no use of solutions except perhaps as in the case of brine of common salt they cause the water to *hug the metal more closely*, and thus facilitate the cooling. We are confident, however, that if the *character* of the steel be thoroughly understood previous to hardening and Tempering, and heating and working be regulated accordingly, water, pure and simple, is all that is wanted to secure any degree of hardening, and the proper Temper, upon subsequent heating, if the latter is done judiciously."

It may appear to some, that I have given too much space to this subject; but when it is considered that there are many men who travel the country selling these Receipts for the various 'solutions for Tempering Mill Picks,' and taking their \$5, and \$10, almost daily, and sometimes several times a day from the hard earned money of the 'country blacksmith,' it is deserving of the very consideration that I have given it.

And I will now only add, that, in my own opinion (and probably no man in the United States, has traveled as extensively, seeking items of a *practical character* and talking with as many practical mechanics and business men, as I have done, having traveled all over 20 States in this work), to make good Mill Picks, the steel must be the best cast-steel and never heated above a cherry red; that it must be hammered at as low a heat as can be done without cracking the steel; filing the point sharp, grinding would probably be better, then Tempering at a cherry red, in the salt bath, as given above will give the most perfect and entire satisfaction.

4. Working, Purifying and Tempering Steel—Used by the Government.—Notwithstanding the following process is a patent, I shall give it, as it may aid, somewhat, in settling the question of whether there is, or is not any advantage in using "solutions" for Tempering Steel; as it appears to me that our Government would hardly pay \$10,000 for the privilege of using it in its shops, if there was nothing in it; but, possibly, I may be in error, if so, however, the superintendent of the "shops" and Congressmen were deceived before me; but, be that as it may, no doubt something may be learned from it by every mechanic who works in Steel, and if there is any value in "solutions," the articles used in this, and the preparations, will be found as valuable as any; and, although no one would have a legal right to use them just as there given, nor to adopt the whole process, yet, I think the knowledge to be gained from it, as a whole, "will pay." The publication was given in the *Scientific American* of Aug. 19th, 1872, and was as follows:

"All sorts of mixtures and methods of Tempering Steel have been invented, and the sales of patent rights therefor have, in many cases, brought in fortunes to the patentees. One of the most promising, profitable, and apparently excellent of these patented processes is that of Garman & Siegfried, owned by the Steel Refining and Tempering Company, Boston, Mass. Congress has appropriated \$10,000 to pay for the

right of use in the Government shops. It is said to impart an extraordinary hardness and durability to the poorest qualities of Steel.

The following description of the process is from Siegfried's specification, patent of July 16, 1872:

"I first heat the Steel to a cherry red, in a clean smith's fire, and then cover the Steel with chloride of sodium (common salt), purifying the fire also by throwing in salt. I work the Steel in this condition, and while subjected to this treatment, until it is brought into nearly its finished form. I then substitute for the salt a compound composed of the following ingredients and in about the following proportions: One part, by weight, of each of the following substances; chloride of sodium," (salt), "sulphate of copper, sal ammoniac, and sal-soda, together with one-half part, by weight, of pure nitrate of potassa, said ingredients being pulverized and mixed. I alternately heat the Steel and treat it by covering with this mixture and hammering until it is thoroughly refined and brought into its finished form. I then return it to the fire and heat it slowly to a cherry red, and then plunge it into a bath composed of the following ingredients in substantially the following proportions for the required quantity: of rain water, 1 gal.; alum, sal-soda, sulphate of copper, of each 1 1/2 ozs.; of nitrate of potassa," (nitre) "1 oz.; and of chloride of sodium," (salt) "6 ozs. These quantities and proportions are stated as being what I regard as practically the best, but it is manifest that they may be slightly changed without departing from the principle of my invention."

"What I claim as my improvement in the art of Refining and Tempering Steel, and desire to secure by letters patent is the successive processes, or steps of the process, with the use of the materials or their equivalents, substantially as set forth."

Those who still believe it is of importance to use anything more than salt in the bath for Tempering Mill Picks, will find this last mixture equal to any; and it is only the use of the whole process that would subject any one to prosecution for violation of the patent.

MILK—Its Value as an article of Food.—Those who make it an object to select such articles of wholesome Food as are the cheapest may find something of Value in the testimony of Dr. Oliver C. Wright, of Providence, Rhode Island, who talks thus about the nutritive Value of Milk:

"The nutritive Value of Milk, as compared with other kinds of animal Food is not generally appreciated. There is less difference between the economical Value of Milk and beef-steak, or eggs, or fish, than is commonly supposed. The quantity of water in a good quality of Milk is 86 per cent, in round steak 75 per cent. From several analyses made last Winter, I estimated sirloin stake, reckoning loss from bone, at 35 cents a lb. as dear as Milk at 24 cents a qt.; round steak at 20 cents a lb. as dear as Milk at 14 cents a qt. Many laborers who pay 17 cents for corned beef would consider themselves hardly able to pay 10 cents for Milk, when in fact, they could as well afford to pay 15 cents."

Milk is a most economical Food for either the rich, or poor. It ought to be more largely used. If the money expended for veal and pork were expended for Milk, I doubt not it would be an advantage both to the stomach and pocket especially during the warm season. Relatively speaking then, Milk at 10 cents, or even 12 cents a qt. is the cheapest animal Food that can be used. Whether farmers can afford to produce it cheaper, is a matter for them to decide. A very large number of poor people refrain from its use from mistaken notions of economy, notwithstanding they are excessive meat eaters."

MODEL MILK-HOUSE.—By refering to FARMING—MODEL FARM, it will be seen that reference was there made, by the committee, to Mr. Crozier's Milk-house. That committee afterwards made the following report on the Milk-house, which will, no doubt, prove valuable to all whose situation will justify them in following out his plans. The report was as follows:

"The walls are 36 by 18, and it is divided into ice-honse, Milk-room, and butter-kitchen. Two tubes, or conductors, go down from the upper part of the ice-house. They are made of boards 8 inches wide and an inch thick, with many holes bored in them. The holes allow the cold air to enter from the ice, and it pours in a stream from the mouth of the tubes into the Milk-room. The temperature of the air, as it comes out at the mouth of the tubes, is about 35°. As the Milk-room has thick walls, and the windows are high, this flood of air at 35° is able to lower the mercury to 62°, and even lower, in July. Sometimes he closes one tube to keep the room from growing too cold. The draft is the strongest in the hottest weather. In Spring and Fall there is little current, and in Winter, when the fire in the stove is constantly burning, the draft would be the other way—but then, the mouths of the ice-tubes are closed. By this arrangement the desired temperature is secured the season through, and there is no difference between the June butter and his January butter. He makes June butter the year round. The stone work was much of it done by farm hands; the hemlock cost \$20 per M., and the pine \$30 and \$35. The whole building cost him \$650. He gets 10 cents a lb. over the market price. Making, say, 200 lbs. a week, his gain is \$20 a week by having the best arrangement for butter-making. Thus his Milk-house pays for itself every nine months, to say nothing of the greatly increased facilities for doing work afforded by a pump, churn, and stove so convenient. He consumes about a ton of anthracite in the four coldest months, and a slight allowance is to be made for wood used in Summer to heat water for washing and scalding. Your committee could see nothing wrong and much that was exactly right about this House and this system; and wherever ice freezes to

the thickness of 3 inches and over, it may be confidently recommended to every butter-maker who milks a dozen cows."

MORTAR-SILICATE (becoming like flint), Suitable for Cobble-Stone Houses.—Recent experiments in Europe, go to show that common Mortar may be made a perfect Silicate (like flint), by combining with it just before using, *finely pulverized, unslacked lime*. The Mortar is first to be made by using "well slacked lime, 1 bu. to fine clean sand, 3 bus.; to be carefully and well mixed, in the usual way. Then, when ready to proceed with the work, at the rate of $\frac{3}{4}$ of a bu. of the "finely pulverized, but unslacked lime," is to be mixed into such a part of the Mortar as can be used soon. The $\frac{3}{4}$ bu. being sufficient for the whole amount of Mortar made. "In four days" says the report, "it became so hard that a pointed iron could not be driven into it; and it clung with equal tenaciousness to the stone of the wall."

We have here, then, a very valuable discovery, which must also be of great account from an economical point of view, when we consider the high price of the Portland, or other cements, or as they are called, "water limes." But it must be remembered, as above remarked, it has to be used quickly after the unslacked lime has been added, but the same is the case also in using any of the "cements." A little experiment will tell how much can be made at one time.

Having often observed Cobble-Stone Houses, there always appeared, at least to me, to be an insecurity about them. They look as though they could not support themselves, as the round form of the stones cannot bind upon each other, but must depend entirely upon the strength of the Mortar. Then if we get a Mortar that becomes a silicate (*silicea*, or *silicea*, *flint*) no danger need be apprehended of a "tumble down" over our heads. This is what this Mortar becomes; and an experiment of a smoke-house, or other small building will satisfy any one of its practicability, especially where large flat stone cannot be obtained without large expense.

MUCILAGE FOR LABELS.—Permanent.—If Labels are to be prepared, or used extensively

Take water, 20 ozs. ($1\frac{1}{4}$ pts.); glue, 5 ozs.; rock candy, 9 ozs.; gum Arabic, 3 ozs.

Soak the glue 24 hours in the water, adding the candy and gum, and dissolve all when it is ready for use. When warm, it can be brushed upon Labels, that have been tacked upon a board, and allowed to dry. Use a glue kettle for the purpose, to avoid burning the Mucilage. When needed, moisten, as you would post-office stamps, and apply.

Mucilage for Labeling for Damp Cellars, etc.—For Labels to be kept in Damp Cellars, as for soda-water, Seltzer water, wine, etc., make a Mucilage with rye flour and glue, and to each pound, add spirits of turpentine and linseed-oil varnish, of each, $\frac{1}{2}$ oz., making the Mucilage pretty strong of glue.

NETTLE-RASH, or Fives.—This disease takes its name from the fact that it appears upon the surface in blotches, or patches looking almost exactly like the blotches raised by pricking with Nettles, *i. e.*, elevated spots on the skin with a whitish, hard center, and reddish base, the same as occurs at every point where the "sting" (as the sharp brier-like hairs of the Nettle are called) enters the skin, especially the tender skin of the child.

Cause.—Nettle-Rash is not contagious, nor is it dangerous; but some persons are predisposed to it; hence, even slight errors in diet, or with some persons, particular articles of food, as mackerel, clams, oysters, strawberries, cucumbers, mushrooms, etc., are liable to bring it on, in children, more particularly.

Symptoms.—The blotches, referred to above, are generally more or less irregular in shape, and attended with inflammation of the whole skin of that part; and these blotches may change from one point to another; and is sometimes attended, or preceded with fever, headache, bitter taste in the mouth, and perhaps with nausea and vomiting. There may be several of these blotches arise and somewhat run into each other, and perhaps may thus entirely encircle the body, from which fact the disease has sometimes taken the name of *shingles*, as they are *lapped* upon each other in laying; sometimes also called *herpes*, from a Greek word which signifies, to creep, for as before remarked, it is liable to change places, or *creep*, and thus extend itself over considerable surface.

Treatment.—First, if there is much nausea in the approach of

the disease, the LIQUID PHYSIC, which see, will be a good article to give, as it allays nausea, and opens the bowels gently, which are both important in any disease of this character; and as the blotches appear, bathe the spots well with spirits of camphor to allay the itching; and if the sponging is extended to the whole surface, so much the better. The SUDORIFIC, or SWEATING TINC., which see, may be given to aid in keeping the disease to the surface, for in most of these skin diseases, if cold is taken, they are liable to "strike in," affecting the stomach with nausea, and irritability. With care on this point, there will be but very little danger. If the *liquid physic* is not at hand, sulphur, 1 part to cream of tartar, 2 parts, may be mixed in molasses and given in proper doses, or salts may be given, in the absence of others; and if no camphor is at hand, saleratus-water may be used for bathing.

NEURALGIA.—The word *Neuralgia*, comes from Greek words which signify a *nerve* and *pain*, therefore, it is understood to mean pain in a nerve; its particular application, however, is to pain in a nerve, or nerves of the face; but it is just as applicable to pain in a nerve of any other part, and is often so used.

Cause.—It is generally understood that the Cause of the disease is cold, exposure to damp, or cold currents of air; but it may arise, and often does arise from debility of the nervous system, which would Cause a general debility if it did not previously exist, whereby the digestive apparatus would be disturbed, Causing, or producing, from the necessity of the case, the general weakness for want of nourishment.

The idea has been recently advanced, also, that a state of exaltation of the nervous system may Cause Neuralgia such as the nervous stimulants, tea, coffee, tobacco, opium, and ardent spirits—if any one who is in the habit of using any, or all of these articles, doubts the fact, let them abstain from their use a day, or two and they will give up the point—but it would be doubtful, even then, if they would *permanently* give up the use of the articles; it is certainly their *privilege* to continue their use, but the consequences no one can bear for them—it is their own to *bear*, as well as to *choose* between a *right* course and a *wrong* one.

Symptoms.—It generally commences with sharp shooting pains from the forehead, eyebrows, or from about the eyes, cheek, or from the teeth, or from the face where the teeth have been removed, and often attended with considerable twitching of the muscles. The pain will dart along the nerve like the piercing of a small sharp instrument, causing the most excruciating agony, making the strongest man, sometimes, to moan like the weakest child, drawing tears from those, even, who never cry for any other reason. The stoutest heart must quail before it, as well as the weakest—it is, indeed, "no respecter of persons."

Treatment.—The following general directions, of Dr. Cone, will be found so eminently practical, that it will be hard for any man to improve upon them; hence I give them a place here:

"The Treatment of Neuralgia consists in correcting any derangement of the system, such as indigestion, which is almost always associated with Neuralgia, and should be Treated as heretofore indicated, with such modifications as may be suggested; or as the experience of the patient shall indicate; which, of course, will include the action of the various secretory glands of the body; and the patient must, if

he would either regain health or perpetuate it, abstain most scrupulously from all predisposing causes, and especially from the use of all nervous stimulants; and from all pursuits, or business that interferes with the general health. Good health is incompatible with Neuralgia. Secure and maintain healthy blood, and there will be no Neuralgia; and the blood must be made healthy in all its constituents, before there will be any permanent relief in Neuralgia. Hence the importance of the patients using a good, rich, but plain nourishing diet, especially the more digestible meats; and addicting himself to invigorating exercises in the open air; and all his pursuits, or pleasures should be of a character to strengthen, and give tone and vigor to the brain, nerves, muscles and blood; he should avoid all heated rooms—all effeminating pleasures; if he be a scientific individual, he should never prosecute abstruse studies too long, or immediately after a meal; if a speaker, he should avoid making a labored effort while the process of digestion is in its first stage, or within an hour at least after a meal; and if from acute disease, or from any other cause, he be debilitated, he should pursue an invigorating course until his health and strength are perfectly restored. In one word, never suffer impaired health to continue, or a reproof that will not soon be forgotten, will be administered."

If the bowels are costive, in chronic Neuralgia, they should be gently moved (but not purged) by the use of any of the gentle laxatives as they correct and carry off any acidity of the stomach and bowels. For arresting and mitigating the severity of suffering, in *acute Neuralgia*, more active cathartics must be resorted to; and the *FEBRIFUGE* may also be given to reduce the activity in the condition of the blood; and the

Neuralgia Liniment must also be applied to the parts, freely, and it may be well also to take a few drops of it, occasionally, to prevent any disposition for the disease to translate itself to any of the internal organs, which it sometimes does, with immediately fatal results. See No. 9, page 550, also No. 8, same page, for Lethian Liniment.

The **Lethian Liniment** may be preferred by some, and will often be found valuable.

As soon as the case is brought under the action of the foregoing *general Treatment*, if the case is at all periodical, or in other words, is less severe one part of the day than at other times, quinine should be given in from 3 to 5 gr. doses once in 2 to 3 hours, which will also have a great tendency to relieve the pain, and to cut short the disease.

Whatever will tend to give general health will aid in relieving Neuralgic pains; hence, as I have been very careful in giving such instructions under all of the general heads, I think no one will be at a loss to know how to proceed with any particular symptoms which may arise in any particular case—*equalize the circulation, restore general health, avoid the cause of disease, and relief must soon follow, in any and all cases.*

N. MISCELLANEOUS RECEIPTS. N.

NAILS GROWING INTO THE FLESH—Painless Remedy.—"An eminent French physician has published an account of the efficiency of the sesquichloride of iron for curing the growth of the Nails into the flesh, and as it is of importance to both the soldier and the citizen, we give the result of an experiment by an army surgeon. He says:

"I may here remark that ulcers about the Nails are occasionally observed among our soldiers, having escaped the attention of the medical boards, or being caused by the pressure of the boot during marches. Under these circumstances a prompt and Painless

cure may be affected by inserting the dry sesquichloride between the Nail and the protruding Flesh, and powdering the latter with the same substance. A large bandage should be applied over all. On the following day the exuberant flesh ("proud flesh," or extra growth of flesh) "is found to have acquired the hardness of wood; suppuration speedily ceases, and a cure follows after two or three applications. In the course of 4, or 5 days, or in a week at the furthest, the original pain ceases, the swelling subsides, and the patient is able to walk. Naught remains but the hardened protruding flesh, which falls away about a month after the application of the sesquichloride of iron."

This will, undoubtedly, be found very satisfactory, much more so than pouring in hot tallow, or dissecting the Nail out by the roots, hitherto adopted by surgeons. Pressure must be avoided in all these cases when there is any tendency to such a difficulty; and, in all cases, Nails should be permitted to grow out to the end of the toe. I have known difficulty to arise from cutting the Nails back, until the flesh raised up past the end of the Nail, so the corner of the Nail had to be dug out. This is easily avoided by letting the Nail grow out to the end of the toe, as we do our finger Nails.

NERVOUS PILLS.—Iodide of iron and ex. of gentian, of each, 1 dr.; powdered savin leaves and powdered Ignatius bean, of each, 2 scr. Mix and make into 60 Pills.

Dose.—Two Pills, 3 times daily, with frictions or sponging to the spine and limbs, with strong camphor spirits, followed with friction.

This was first prescribed by T. C. Miller, M. D., for Nervous debility, known by frequent or constant headache, sleeplessness, loss of memory, or confusion of mind, palpitation of the heart, and all the Nervous diseases of females arising from general debility, which in their cases are also generally accompanied with various derangements peculiar to their systems. The reason given for this change from the alcoholic ex. of St. Ignatius' bean, where 30 grs. of that, with 10 grs. of gum Arabic was to be made into 40 Pills, and 1 taken night and morning, is, says King, that "with many persons that would prove dangerous," but with this you have the benefit of the alterative properties of the iodine, and also the tonic aid of the iron; besides the *Ignatius amara* "possesses, of itself, an influence over the Nervous system, of a tonic and stimulating character, not belonging to *nux vomica*, or *strychnia*," which are generally used for these purposes.

But should the extract be used, the 30 grs. dividing it into 80 to 100 Pills would, continues Professor King, "remove the danger attending their use."

These Nervous diseases quite often arise from a want of proper assimilation of the food to the wants of the system, in other words from a greater or less degree of dyspepsia; then, what will restore general health, and maintain it, will remove these Nervous difficulties.

NOSE BLEED—Remedy.—Take skunk-cabbage root pulverized very finely, precipitated chalk, tannin, and starch, of each, $\frac{1}{4}$ oz. Mix and use as a snuff, and if need be fill the nostril with it; and it would be found valuable to put into small wounds, also, that continue to Bleed from the small vessels that have been cut off.

In either case, it will be well to pursue a course of treatment that will increase the tone and vigor of the system, for this leakage of Blood is not common, except in cases of weakness and debility of the general system.

NOURISHING SOUP FOR INVALIDS.—In cases where Invalids are very feeble, requiring considerable Nourishment to keep them from falling altogether, the following Soup will be found very satisfactory:

Take young and tender lean beef, or veal, cut into smallish pieces, 2 lbs.; and pearl barley, $\frac{1}{4}$ lb., and put them into 1 qt. of cold water, and slowly bring to a boil, and continue to simmer, or half-boil until it becomes of a creamy consistence, having put in a little salt, and a small sprinkle of pepper; and if celery is at hand, and its flavor is liked by the patient, put a little of it in during the boiling. Serve warm, and as freely as may be borne without distressing the stomach.

NOURISHING ENEMA, OR INJECTION.—In cases when Nourishment cannot be retained upon the stomach, the patient must be sustained by injections of beef-tea, strong chicken broth, &c. Broth boiled down until it is quite thick and rich. Other liquids, known to possess highly Nourishing properties may be used, as sago, or arrow-root broths, etc. In cases attended with extreme prostration, a trifle of spirits, may also be added to stimulate the bowels to take up a larger proportion than they otherwise would. Persons have been supported for several days, in this way.

2. The above Nourishing Soup for Invalids, would be equally valuable as a Nourishing Enema.

NEUTRALIZING PHYSIC, or Compound Powder of Rhubarb.—

Best Turkey Rhubarb, bicarbonate of potash, and peppermint herb, of each, equal parts, say 1 oz. will be sufficient to prepare at one time, for family use. Pulverize the Rhubarb and peppermint, and sift through a sieve, or a fine gauze; then pulverize the bicarbonate and mix all thoroughly, bottle and keep corked.

Dose.—For a child, put a tea-spoonful into a tea-cup, and half fill it with boiling water—steep half an hour, strain and sweeten. For a child of 1 year, give half tea-spoonful doses every hour, or two, if 2 to 3 years, a tea-spoonful. An adult might take the whole at a dose, and repeat every 3 hours—or put in 3 tea-spoonful, and take one-third at each dose.

It will be found a valuable laxative, in costiveness, or other difficulties requiring

laxatives; and it will be found as valuable a Neutralizing Physic, or corrective when the bowels are already lax, or loose from eating unripe fruit, or other vegetables, as is often the case, causing irritation of the stomach, known by acidity, nausea, or by vomiting. As heretofore used the bicarbonate of potash has not been used sufficiently strong to Neutralize the acidity; hence the desired relief has not been always obtained.

2. Neutralizing Cordial.—If any persons prefer to prepare it at once, in the Cordial form, have 4 ozs. of the Powder made, and steep it in water, 1 pt.; strain and press out, to which, add, alcohol, 1 gill, oil of cinnamon and wintergreen, of each, $\frac{1}{2}$ dr. and white sugar, 1 lb. The oils should be put into the alcohol before it is added. Shake until the sugar is thoroughly dissolved.

Dose.—For an adult, a table-spoonful; for a child of 2 to 5 years, a tea-spoonful, to be repeated in from 1 to 3 hours, as needed. See also NEUTRALIZING CATHARTIC CORDIAL.

O. MISCELLANEOUS RECEIPTS. O.

OAKUM AS A DRESSING FOR BURNS AND ULCERS.—It has been for some time conceded that Oakum made a good Dressing for Burns and Ulcers, healing some extensive sores with remarkable rapidity, and inducing a healing action in indolent Ulcers that arise from a defective condition of the digestive system, preventing all offensive smell, is cheap, saves time and trouble in Dressing, and another important point is—the scars do not contract, as they usually do, in Burns.

ODOR FROM PERSPIRATION—Remedy.—This very great source of annoyance may be entirely removed as follows:

Mix a table-spoonful of the compound spirits of ammonia in a small basin of water. By washing the arms, arm-pits, and hands with this solution, the skin will be left clean and sweet. It is cheap and harmless, and is much preferable to the perfumes and unguents which cover up and disguise but do not correct the cause.

OIL-CLOTHS, to Preserve their Polish.—If it is desired to have Oil-cloths retain their Polish, or lustre, they must not be washed, only with Castile soap, as the more common soaps are too caustic, destroying the lustre. If that has already been injured, have a coat of copal varnish applied, and avoid common soaps in the future.

OIL-STONES—TO FACE.—Tack sand-paper upon a smooth piece of board that is out of wind, and rub the stone upon it. It soon levels the Stone, and as the work progresses, the surface of the paper becomes more smooth, leaving an even surface upon the Oil-Stone.

OINTMENTS.—Ointments are calculated to contain the properties of such medicines as may be desired to use by external application, softer than plasters, or salves, as unsalted butter, or lard, and sometimes some of the oils are used, by also adding a little wax to give them a consistency equal to that of lard, or butter. In making Ointments from dry herbs, or leaves, it is well to stew, or simmer them in water and alcohol, equal parts, as water alone, nor will the butter, lard, or oil alone, extract all the properties of vegetables. But by simmering in the spirituous mixture these properties are all obtained; then the butter, or lard, or oil added, and the simmering continued until the water and spirits are evaporated, then strain, and you have the full power of the articles.

1. Ointment—Stramonium and Hop—for Salt-Rheum, Burns, Ulcers, Painful Tumors, etc.—Take Stramonium (Jimpson) leaves, 4 ozs.; Hops, 2 ozs.; lard, 6 ozs.; alcohol and water, of each, 1 gill, or sufficient to cover the herbs, which will be simmered an hour, or so, then add the lard and continue to simmer until the leaves are all crisped, strain and box for use.

This has been found valuable in all of the above named difficulties. Apply sufficiently often to keep the parts soft, and moist.

2. Mrs. Wolf's Ointment—for Burns, Old Sores, or Fresh Wounds, etc.—"Take what square-stem roots you can grasp in your hands, to about 2 lbs. of mutton tallow. Simmer down to a thick Ointment, or Salve, and flavor with anything that suits the fancy."

The above Receipt was sent to me by a brother-in-law, Samuel Elliott, of Franklin Station, Coshocton Co., O., with the following statement, which so thoroughly convinced me of its value that I give it a place, and have also taken the labor of looking up the importance of the root, of which it is made, all of which will be explained below. He says:

"It is far above anything that I have ever seen tried. Mr. Wolf told me, a short time since, that he could not get his corn harvested if it was not for this Salve (he puts in from 300 to 250 acres every year). We all use it for Burns, Old Sores, and for Fresh Wounds, etc."

I then turned to King's *American Dispensatory* to see what the *Square-Stem* was, and found it to be *scrophularia nodosa*, a so known as figwort, healall, carpenters-square, and square-stalk, while, in Ohio, it also bears the name of square-stem. And it is recommended as an "expectorant, diuretic, and anodyne, highly beneficial in diseases of the liver, scrophula, skin diseases, dropsy, decoction, or tea; and as an Ointment, is considered valuable in bruises, ringworm, piles, inflammation of the breasts, painful swellings, itch, etc., and the root, in decoction, drank freely, restores suppressed" (stopped) "menses, and relieves pains in painful menstruation—dose of the tea, 2 to 4 ozs.— $\frac{1}{2}$ gill to 1 gill.

If this can be beat by any other article, I should like to hear from that other article

—I think it fully justifies Mr. Elliott in saying as he did in his letter, "you may christen it Mrs. Frank Wolf's World Beater." I think in sections where it grows, its use will give general satisfaction.

3. Mayer's German or Compound Lead Ointment, for Cuts, Wounds, Ulcers and Skin Diseases.—Olive-oil, $2\frac{1}{2}$ lbs.; white turpentine, $\frac{1}{2}$ lb.; bees-wax and unsalted butter, of each, $\frac{1}{4}$ lb.; red lead, 1 lb.; honey, $\frac{3}{4}$ lb.; powdered camphor, $\frac{1}{2}$ lb. Melt the bees-wax, white turpentine, butter and olive-oil together, and strain them to nearly the boiling point, and gradually add the red lead, stirring the mixture constantly until it becomes black, or brown; then remove from the fire, and when it is somewhat cool, add to it the honey and camphor, previously mixed together.

"This forms," says King, "a very beautiful Ointment for all kinds of Ulcers, Cuts, Wounds, and several cutaneous" (Skin) "Diseases. It is of a more solid consistence than Ointments are generally. It is highly prized by the German population, who have held it for a long time, as a secret among themselves. The profession are indebted to Mr. Jos. P. Mayer, of Cincinnati, for a knowledge of it."—The Germans call it *Zusammengesetzte Bleisalbe*.

It has been extensively used by Eclectic practitioners for several years, and the people will no doubt, use it for general purposes, and feel as grateful to me for its introduction to them, as the profession to Mr. Mayer. It will usually be spread upon soft linen for application.

4. Elder-Flower Ointment and Oil.—"In the London Pharmacopœia" (a book describing how to make medicines) "the Flowers are directed to be boiled with the lard, in making *unguentum sambuci*" (Latin for Ointment of Elder-Flowers). "By this process the odor of the Flowers is entirely destroyed, and the Ointment acquires an empyreumatic smell" (a smell of burnt animal, or vegetable matter) "from the action of heat on the Flowers. To obviate this result, and to make an Ointment possessing the pleasant odor of Elder-Flowers, I beg to suggest the following process, which I have found effectual.

"Melt the lard at the lowest possible temperature at which it assumes the fluid form, and introduce into it as many Flowers as the melted lard will cover. Macerate" (steep) "them at the above temperature for 12 hours, and then strain off the lard through a piece of linen, without the least pressure. By this means, an Ointment will be made, when the lard is cold, which represents that which the college really intended it should be.

"The Oil of Elder-Flowers requires no heat for its preparation, and is prepared precisely as the Ointment, with the exception of the heat, using sweet-oil, or nice lard-oil in place of the lard, as the only object of the heat is to melt the lard, and besides its employment on any other ground is objectionable, especially as it volatilizes the odorous principle of the Flowers."—*Septimus Piesse*.

The Elder-Flower Ointment is valuable in scalds and burns, and is also used as a discutient (driving away) in erysipelas, etc. The manner of making it is applicable to making any Ointment of flowers.

5. Fever-Sore Ointment.—Extract of tobacco (kept by druggists), 1 dr.; alcohol, 1 oz.; bees-wax, $\frac{1}{2}$ oz.; lard, $4\frac{1}{4}$ ozs. Dissolve the ex. in the alcohol, having melted the bees-wax and lard together, add the dissolved ex. and continue the heat to evaporate the alcohol. Stir till cold.

"This," says King "may be prepared by taking the fresh leaves of tobacco, 2 lbs.; lard, $\frac{1}{2}$ lb.; alcohol, $\frac{1}{4}$ pt.; wax, 1 oz. Mix and slowly simmer together until the leaves are crisped, and then strain and press out through linen." The dried leaves are not considered of any account for an Ointment, nor is plug tobacco considered as good, for it has previously been dried. To make from the ex. when it can be obtained, is the least trouble.

Tobacco Ointment, if properly made, is considered valuable in Fever-Sores, effections of the skin, piles, scald-head, irritable swellings, painful ulcers, etc. I have been informed of a case of a Fever-Sore, of 17 years standing, cured by it—in that case also the Ointment was made from plug tobacco, $\frac{1}{4}$ the amount as of the "fresh leaves" as above given. Rosin too, has been used, but it makes the Ointment too hard, stiffening the cloths too much to fit to depressions in the ulcers.

6. Spermaceti Ointment—for Chaps, Chafings, Dressing Blisters, etc.—Spermaceti, 3 drs.; white wax, 1 dr.; olive-oil, $1\frac{1}{2}$ ozs. Melt over a gentle fire and stir until cool. Applied in any of the above cases, and to any irritable surfaces; but it is not an Ointment for long keeping; hence, it is made in small quantities at a time.

7. Ointment for Neuralgia.—Albumen, or white of egg, 1 dr.; rhigolene, 4 ozs.; oil of peppermint, 2 ozs.; collodion and chloroform, of each, 1 oz. Shake occasionally for 24 hours, "which," says Dr. J. Knox Hodge, "gelatinizes" (hardens) "into a semi-solidified" (half-hard) "opodeldoc-looking compound, which will retain its consistency and hold the ingredients intimately blended for months, which he also says, "will relieve facial, or any other Neuralgia almost instantaneously."—*Georgia Medical Companion*.

This was re-published by the *Eclectic Medical Journal* for Jan. 1873, from which I

have taken it; but as yet I have had no occasion to use it. I am satisfied of its value however, as the *rhigolene* is a highly volatile article distilled from petroleum, which some prefer to ether as a freezing anæsthetic, "being more certain, and more rapid in its action, more easily controlled, odorless and less expensive." If not generally kept yet, by druggists, they will obtain it when the demand will justify it.

8. Discent Ointment, or Ointment to Drive Away Swellings, Tumors, etc.—Bark of the root of bittersweet, leaves of stramonium (Jimson), elcutia (water hemlock), atropa belladonna (deadly night-shade), roots of the yellow dock and poke, and Venice turpentine, of each, 2 ozs.; water, and alcohol, of each, 1 pt.; lard 1 lb.

Bruse all of the roots and put into a suitable kettle for stewing; then put on the alcohol, and sufficient of the water to cover all of the articles well, and keep them moderately hot for 12 hours; then add the lard and increase and continue the heat until the roots and leaves are all crisped; then strain and add the Venice turpentine, and keep it well stirred while cooling. The spirits are necessary to obtain all the properties of the articles. The water hemlock and deadly night-shade will be found with the druggists.

Apply freely to any indolent swelling of the glands, or enlarging tumors, 2, or 3 times daily, covering the parts with cotton, keeping it in place by bandaging, or otherwise heating it in thoroughly for half an hour, each time, by means of a hot iron, or by the stove. Probably the most would be absorbed by covering it with the cotton and bandaging. It is reported to have cured, even bronchocele, or enlarged neck, also called *goiter*, which comes from the Lat. *guttur*, the throat; hence we have also the word *guttural*, a sound formed in the throat.

9. Pile Ointment.—A patent was granted in 1844 (expired in 1868) to Wm. W. Riley, of Mansfield, O. for the cure of Piles, as follows:

Flour of sulphur 2 ozs.; powdered nut-galls, 1 oz.; opium powdered, 1 gr., intimately mixed with lard until the proper consistence is obtained.

To be applied night and morning, to the parts. It is a good preparation, in fact, the probability is that no patent was ever taken out for any medical preparation, except for such as the patentee had been using with success.

A course of general treatment should be pursued that will restore general health, and especially overcome any tendency to CONSTIPATION, which see.

OMELET, POACHED EGGS, ETC.—Sweet milk, 1 cup; flour, and butter, of each 1 table-spoonful; eggs, well beaten, 6.

Rub up the flour with a little of the milk and add the rest; stirring in the butter, which has been melted; salt, then, the eggs being well beaten, stir them in also; having a bit of butter in a frying pan, or stew dish, beginning to get hot, pour in the Omelet mixture, and cook slowly, stirring all the time until the whole is quite thickened; then let it rest until the bottom is nicely browned; when it may be turned bottom up, upon a plate; or if it sticks to the bottom of the dish, cut it into pieces of a suitable size to serve, 1 piece to the plate of a guest. It should be $\frac{3}{4}$ to $1\frac{1}{4}$ inches thick. For variety 2, or 3 ozs. of cold fried ham, cold veal, or cold chicken may be nicely chopped and seasoned and stirred in to this mixture before frying; or a little grated sweet corn left from dinner may be stirred in, or coarsely cooked hominy, in place of the sweet corn; then dip in spoon-fuls into a frying dish, having a little butter hot, and nicely fried, in place of oysters for tea. Some persons prefer pounded cracker in place of the flour, or a table-spoonful of cracker and a tea-spoonful of flour to each 4 eggs, to be mixed just before putting upon the griddle; then turn up the edges as soon as it begins to set. Some prefer no salt to be put into the Omelet, but to let each guest season to suit themselves.

Again some persons think that "The best and nicest Omelet is made with one egg to one spoonful of milk. For an unexpected guest, this one-egg Omelet is just the thing for luncheon, or tea, as it is easily made and turned off the griddle so handsomely."

2. Poached Eggs.—Break a sufficient number of Eggs to meet the wants of those to be at tea, and beat them well, in a basin which can be set on the stove, or have a little butter in a frying pan, and pour in, stirring until they are thick. Serve on buttered toast, or with toast, as you chose.

ONIONS—To Pickle.—Take rather small Onions, and as nearly of one size as possible, peel and wash them; sprinkle freely of salt over them, then pour on sufficient boiling water to cover them, stir up to dissolve the salt, cover and let stand for 24 hours; then place them in jars and pour boiling cider vinegar over them, into which you had put whole pepper-corns and mustard seed before bringing to a boil, sufficient to entirely cover them.

1. OYSTERS, Fried, Escaloped, Soup, etc.—Take the largest ones, and rinse them in cold water to free them from bits of shell; then dip them into beaten egg, and then into finely rolled cracker crumbs, both sides, and fry in butter, not too hot—turning over when the first side is nicely browned. Serve while hot; and this holds good with Oysters, no matter how they are cooked—a cold Oyster, unless raw is not a "treat."

2. Escaloped Oysters.—This dish should undoubtedly be called, simply, *Baked Oysters*, the word Escaloped having reference to a bivalve, or Oyster shell; but possibly the name originated by their being baked in a fluted, or Escaloped dish, the edges resembling, somewhat, the edge of an Oyster shell. They are also called scoloped, or scolloped, but Escaloped, is the more correct spelling. To prepare the dish:

Obtain a sufficiency of such as you choose to use—the small Oysters are *equal in flavor* to the largest, they also cook quicker. Rinse them in cold water, as all Oysters should be, if you do not wish to break your teeth with bits of shell, and strain the juice. Powder the crackers finely, (light, dry bread crumbs may be used) and butter the pan nicely; then put in a layer of the crumbs, and dip a few spoonfuls of the Oyster Juice over the cracker to moisten it and put on also a few bits of butter, then a layer of Oysters, and upon these sprinkle a little salt and pepper, sufficient to season well; then crumbs and Oysters, again, until the pan is nearly full, finishing with crumbs—having put on all the juice, and if you think this will not give sufficient moisture to wet all the crackers, a little rich milk, or sweet cream may be added for that purpose. Bake until the Oysters are cooked through, otherwise, no seasoning will overcome a sense of rawness—about 1 hour will be sufficient. If the top is likely to be too much browned, put a piece of white paper over it.

3. Oyster Stew, or Soup.—Take the Oysters into a dish of cold water to rinse off bits of shell; strain the liquor for the same purpose; and to each pt. of the liquor add milk, or water, $\frac{1}{2}$ pt. Place this upon the fire and bring to a boil, thickening it with a tea-spoonful, or two of flour, rubbed smoothly with a little cold water; then put in the Oysters and as soon as they begin to boil again, remove from the fire and serve. Let the seasoning be done by each one at table, to suit their own taste. Salt must not be put into them in scalding, nor scalded long, unless you wish to both shrink them and make them hard and tough. Always served with crackers.

PALSY—PARALYSIS.—Palsy, or Paralysis is the loss of voluntary motion, and sometimes of feeling, also in the part. If confined to an arm, or leg, it is generally called Palsy of such a part. If it affects one whole side it is called *hemiplegia*, from Greek words signifying half, and to strike—a stroke, then, affecting half of the body, on one side; if the entire lower half, it is called *paraplegia*; and if attended with trembling, it is called shaking-Palsy.

Cause.—It may follow an attack of apoplexy. It may be Caused by tumors which press upon nerves, preventing a free flow of the nervous fluid into the limbs, or organs affected. Whatever tends to relax, or reduce the general system will have a tendency to lessen nervous activity, and thereby produce Palsy. Those who work in the manufacture of white lead, and painters also, using white lead for a long time, especially if they allow it much upon the hands may have this disease.

Symptoms.—As a general thing, there is no particular warning of its approach; occasionally however, numbness, with coldness and slight twitchings of the muscles have preceded it. If the brain is much affected, the face is likely to be distorted, the speech indistinct, and the judgment and memory also affected. In long continued cases, the muscles of the limbs are likely to waste, as well as to become soft and flaccid ("flabby"). If it arise from APOPLEXY, the Symptoms of that disease, which see, would be likely to have attended it, whereby a preventive treatment as there recommended, should have been adopted. It may however, come on slowly, affecting the muscles of the tongue, mouth, eyelids, or a finger, hand, or arm, and only gradually extend to other parts; but these are the exceptional cases.

Treatment.—When a whole side is affected, or both of the lower extremities—*hemiplegia*, or *paraplegia*—it is seldom that much relief can be obtained, especially so if motion and feeling are both suspended; but in recent cases, some relief may be hoped for by pursuing a similar course to that directed as preventive, or to relieve after APOPLEXY, which see. If there is spasms of the muscles, contortions of the face, with pain, etc., make the following:

Liniment for Palsy.—Tinct. of lobelia and sulphuric ether, of each, 2 ozs.; tinct. of Cayenne, laudanum, of each, 1 oz.; chloroform, $\frac{1}{2}$ oz. Mix and keep corked.

Dose.—Give internally in a little sweetened water, $\frac{1}{2}$ tea-spoonful

every 20 minutes until the pain and spasms are relieved. At the same time bathe the parts with the same, and also the back, especially close along the spine with it, using brisk friction with the hand, until the violent symptoms are allayed; then, active CATHARTICS, and probably the following STIMULATING INJECTION, will have to be used to remove the constipation, especially will the stimulating injections have to be used if it is *paraplegia*, or a Palsay of both lower limbs, in which case prepare the following:

Stimulating Injection.—Take Cayene and lobelia pulverized, of each, a small tea-spoonful, boiling water, 1 pt.; castor-oil, sweet-oil, or lard, 1 gill, common salt, a table-spoonful. Mix all, and when cooled to allow its use Inject one-half at first and retain it as long as may be, and soon after, the balance, still as warm as can be used. This Injection will be a great help in moving the bowels, which are, in these cases, very inactive. Cathartics, and possibly the Injections may have to be repeated every 3, or 4 days, for some time. And the frictions with the liniment, as above, or with the NEURALGIA LINIMENT, or with any of the strong liniments, must be kept up daily, or twice daily.

After the spasms, and contortions have subsided, besides the frictions, daily, the common NERVOUS PILL, which see, may be taken night and morning, or the following: The salvy ex. of hyosciamus, 60 grs.; ex. of aconite, and macrotin, of each, 30 grs., (all of which are, or should be kept by druggists generally), make and divide into 30 pills, 1 to be taken night and morning, will greatly aid in allaying the nervous irritability; and after a couple of weeks Treatment, as above directed, any of the good *tonic bitters* of this book, or such as have been generally used, with all other care and Treatment calculated to restore general good health, by restoring all of the secretions, as far as can be done, will also require the attention of those who have the case in charge.

P. MISCELLANEOUS RECEIPTS. P.

PAINTER'S, OR LEAD-PARALYSIS OF THE WRISTS—to Avoid.

—Experience has shown that what is called Lead-Paralysis, or loss of motion of the Wrist-joints, among Painters, is largely owing to the habit they have of washing the hands in turpentine to remove the paint. This dissolves the Lead, zinc, etc., allowing it to be more freely absorbed than would otherwise occur; therefore to Avoid the Paralysis, Avoid the turpentine-soap was made to wash with.

PAIN KILLER—For Billious Colic and other Internal Pains.

Best alcohol, 1 pt.; opium, gums camphor, Arabic, and guaiac, balsams of fir and Copaiba, of each, $\frac{1}{2}$ oz. Mix, and shake occasionally until all is dissolved.

Dose.—Half to a tea-spoonful, according to the severity of the pain, in Colic, or other Internal Pains, in which it has been found valuable. See also HUNN'S LIFE DROPS, NEURALGIA LINIMENT, etc., for internal use.

PALPITATION OF THE HEART. Immediate and Permanent

Relief.—Hall's *Journal of Health*, says that a lady of 40 years, who has been troubled for 12 years with periodical Palpitation of the Heart, found Immediate and Permanent Relief in the use of soda-water; and that afterwards, experiments showed the Relief to come from the carbonic acid gas, contained in the soda-water.

1. PEACH TREES—Proper Care of.—Peach Trees require, to begin with, a rich soil and careful cultivation: then every year, a careful examination for worms, especially just between the ground and air (as the sailor would say, "between wind and water"), at the same time, if it is in the Spring, putting a shovelful of wood ashes around the roots; and when 5, or 6 years old, the soil should be removed from the top of the roots back about 2 ft., and left off a week, or so, and the rough bark scraped off, and a wash of lime and salt to the trunk a foot, or two up, and top of the roots, before the dirt is replaced.

This plan gives the Marylanders the largest and most profitable crops, that are obtained anywhere.

2. Peach Borer—A Remedy.—We find in the *Southern Cultivator* an article from H. F. Grant, of Glynn County, Georgia, in which he gives a sure Remedy against the Peach Borer, but which is nothing more or less than that which we have for many

years practiced with our dwarf-pear stocks, (quinces,) viz: Remove the earth from around the trunk, say 4, or 5 inches; then wrap round the same, as far down as is practicable, a bandage of cotton cloth so as to be 4, or 5 inches above the ground when the earth is put back, having secured the bandage with cotton twine. This is allowed to remain on, according to Mr. Grant's plan, as long as it is whole, and then it is to be replaced with another; we mention that, although never tried, we had no doubt that this bandage method would be equally effective applied to Peach Trees, etc. We recommended, however, the removal of the cloths about the first, or middle of August, and to renew them again as early in the Spring as the condition of the ground will admit of the operation. We think so still, as there will then be no chance of neglecting to renew when the old bandages are no longer a protection. We never had a Borer in our quince stocks where this Remedy was properly used.—*Germanstown Telegraph.*

It would appear that the Borer does his work "between wind and water," so if this part is protected with the bandage, he has no chance.

3. Peach Trees—Old ones Made More Fruitful.—Dr. George P. Wood, President of the American Philosophical Society, having noticed that his Peach Trees, after producing a few crops, ceased bearing, and died in a few years; and believing that the cause of decay was worms at the roots of the Trees, he put into operation a plan for the destruction of the worms. He dug holes five or six inches deep at the base of the stem, scraped away all the worms that could be found and filled up with wood ashes fresh from the stove, which of course contained all the potash. This was done in the Autumn of 1863, with a result in the following Spring at which he was astonished. The Trees appeared to have been restored to all their early freshness and vigor—put forth bright green leaves, blossomed copiously, and bore a heavy crop of Fruit. On reflection Dr. Wood attributes the favorable results more to the effect of the potash contained in the ashes than to the destruction of the worms.

I have no doubt but what it benefits both ways—against the worms, and to make them more thrifty, and give them more vigor and strength, and consequently More Fruitful. The strength of the ashes dissolving out into the soil around the roots of the Tree makes it too strong of alkali to allow the Borer to live there; and no doubt the application of the ashes would go far to relieve the necessity of the bandaging at the root of the Trees as recommended in No. 2, above, see No. 4, also.

4. Peach Tree Forty Years Old, in a Tansy Bed.—A writer in a New York paper recommends sowing Tansy about the roots of Peach Trees as a means of preserving them. He says he once knew a large Peach Tree which was *more than 40 years old* while several generations of similar Trees in the same soil had passed away. This led to an examination, and it was found to be in a Bed of Tansy. It was naturally inferred that the preservation of this Tree to such a green old age was attributed to the presence of this plant. It was decided to try the experiment on others, and accordingly a few of the roots were placed about each of the other Trees on the premises, some of which gave signs of decay. . . . only has it preserved them for several years, but renovated those that were unsound. The odor of this plant, he says, doubtless keeps off the insect enemies of this kind of Tree, and it is believed that it would have the same effect on others, as the plum, apple, and pear, as well as the sycamore and other ornamental trees.

The word Tansy comes from a Greek word which signifies immortal—exempt from liability to die. It is certainly a very bitter herb, and undoubtedly, as above remarked, has a tendency to keep away all insects that would injure the roots of any Tree.

5. Peaches Upon the Wild Plum Stock.—A correspondent of the *Ohio Cultivator*, says that the Peach may be grafted upon the Wild Plum, partaking of its hardiness against Winter-killing and in starting late in the Spring, and in its long life, and in bearing every year.

These are certainly desirable points to attain; and I can see no reason in nature why it may not prove itself true.

PEACHES—Quick Process of Peeling.—It is not generally understood that Peaches may be Peeled by putting them into hot lye, for a moment, then into cold water to remove the lye, and to cool them for handling.

The lye may be leached off in the usual way, or made *quite strong* by putting ashes into hot water, and straining off, when the full strength is obtained—remember the lye must be strong; then, when ready to proceed, put the lye into a suitable kettle, and bring it to a boil, putting in the Peaches and stirring about with a skimmer until the skin begins to loosen, which you can tell by putting one into cold water to allow you to take it in the hand, when by pushing with the thumb, or by a clasping motion of the cold hand the skin will slip off readily; then skim out as quickly as possible into the cold water, and the Peelings will slip off as readily as the skin from a boiled beet, and *ten* of them to where you could pare *one* with a knife, especially after you get a little use to it—none of the Peach is wasted, and time is saved. The water removes the alkali, and the alkali causes the skin to slip, and to start quicker also than the use of water alone.

2. Pickled Peaches—Sweet.—Now that Peaches may be picked from a 40 year-old Tree, and the orchard kept free of Borers also, it will certainly be desirable to be able to have a nice Sweet-Pickle of this delicious fruit; for every additional variety of form in which this or any other fruit may be brought to the table, adds to the enjoy-

ments to be derived from the good things which the wisdom of God has placed before us, for that very purpose. Then, after having peeled the Peaches, as above:

Take 7 lbs. of them, not stoned, white sugar, 3 lbs. good vinegar, 1 pt.; cinnamon, cloves, or allspice to taste.

Tie up the ground spices in a cloth and put with the sugar and vinegar, and heat to a scalding heat, then pour over the Peaches; and let them stand 2, or 3, days, when it will be necessary to scald all together again, which will prevent any after working.

This plan of not removing the stones, gives the Peaches a better flavor; and the use of only 1 pt. of vinegar allows them to be dished-up with some of the juices, as sauce, while with a larger amount, they can only be used as other tart Pickles.

PICKLED CRAB-APPLES—Sweet.—To Crab-apples, 1 qt., put sugar, 1 pt., and just vinegar enough to cover, a little whole spices, or if ground, tie them up, as for peaches; boil slowly until the Apples are tender, but not to allow them to break to pieces. Scald again after 3, or 4 days; then put in jars.

PICKLED TOMATOES—Sweet.—Slice green Tomatoes, 1 gal., pour over them sufficient water to cover them; sprinkle salt over the top about a quarter of an inch thick; let them stand 24 hours, then drain from the brine. Put them into a large kettle; add a quart of sugar, and vinegar enough to cover them, and a good handful of allspice and cloves, unground. Let them boil up, and take off the fire and put into jars.

1. PICKLED CUCUMBERS—Without Vinegar.—Sometimes it is of importance to have a nice Pickle without Vinegar; for, in some places it is difficult to obtain a good quality of Vinegar; then, as there are but few neighborhoods but what there can be obtained a plenty of grape leaves, take the German method, and proceed as follows:

Carefully wash the Cucumbers, so as not to bruise them; then place about a doz. large grape leaves upon the bottom of a 4, or 5 gal. keg, or stone-jar; now pack a layer of Cucumbers snugly on the leaves, and sprinkle over them a small handful of salt. Then lay vine leaves again, and then Cucumbers and salt, and repeat the order till the vessel is nearly full. Cover over with vine leaves, and put a round board on the leaves with a clean stone on the top. Fill the vessel with water till the Cucumbers are covered; the board will prevent them from swimming on the water and so becoming exposed to the air. Taste the liquid; it should be pleasantly salt; add a little salt if it is too flat. Let the whole stand, in a not too cool place, for 3 weeks, when the Cucumbers will be sour and ready to eat. They will keep all the Winter if put in a cool place. No Vinegar is necessary. The Pickles will be of an olive color, and are more wholesome than poisonous bright green sulphuric acid and brass kettle Pickles sold in almost every store.

This method originated in Germany, a country where it is said that dentrity is not so perfect as it is in this country; hence, they endeavor to make their Pickles in such a manner as not to destroy those necessary accompaniments of good digestion—the teeth.

2. PICKLED CUCUMBERS—With Vinegar.—Cut the Cucumbers from the vines every morning, leaving a short bit of stem, for if pulled off they are likely to rot, beginning where the stem was broken from the skin. Be careful also not to bruise them, for that causes decay. If it is desired to make some directly for use, first sprinkle a handful of salt upon them, then cover them with boiling water and let them stand until the water is cool. When cold, drain off the salt water, and place the drained Cucumbers in the Pickle Jar and cover them with boiling Vinegar, in which you have scalded such spices as you desire. In 3, or 4 days you will have a nice crisp, or brittle Pickle, much better, and quicker for having soaked the acrid gum out of them with the boiling water.

3. Second.—The scalding, even, of all that you desire to put up in salt for family use, will be an advantage in soaking out the natural gum, and increase their likeness to keep; then drain, after the scalding, and put a layer of salt on the bottom of the barrel, then Cucumbers, then salt, as in ordinary packing when not scalded. No water is needed; but they should be weighted to hold them close, and under the brine which they will make by yielding up their own water. When needed for use take out of the brine and cover them again with boiling water, and let them soak one day, then change again for more boiling water; and thus, in 2 days they will be ready for scalding Vinegar; when, if soaked in cold water, it takes 3, or 4 days to "freshen" them sufficiently. No fears need be entertained as to the use of the boiling water, for my wife has used it in "freshening" her Pickles for some time, and I am so well assured as to the propriety of scalding them when "picked off," or rather cut off, that I have no hesitancy in recommending it.

Fresh Cucumbers, nor fresh Tomatoes, make as nice and crisp a Pickle to be cut at once into Vinegar, as they do for having been first soaked in either cold, or scalding brine; not necessarily very long—a day, or two in cold water and salt, and an hour, or two in hot, only, are required to remove their acrid and unhealthy juices.

1. PIES—Cocoa-Nut Pie.—Beat 2 eggs with $\frac{1}{2}$ cup of white sugar, to a froth, and a trifle over 1 pt. of sweet milk. Crack the Cocoa-Nut, and drink off the liquor, if you like it, and scrape out the soft inside a little, take out the solid white part, and scrape off the brown that peels from the shell, grate the white part and add a cup of it

to the custard prepared as above. No spice should be added, or if anything, only a little nutmeg. Line a deep Pie dish with Pie paste, and fill with the Cocoa-nut custard. No upper crust is necessary. Bake in a quick oven, and be sure and don't bake it too long, just till it thickens and rises up light. Any thing that has custard as its chief preparation should never be baked till the whey separates from the curd.

Some persons think it advisable to bake a custard Pie crust before putting in the custard; but my wife says if the paste is made sufficiently rich, the custard will not soak into the crust if the Pie is put into a hot oven as soon as it ought to be after the custard is dipped in.

2. Lemon Custard Pie.—Water, 1 qt.; brown sugar 1 rounding cup-ful; 2 Lemons; 4 eggs; corn starch, 4 level table-spoonsful; salt, just a pinch; butter, 1 oz.

Put the sugar into a 2 qt. basin with the water and place on the stove until it comes to a boil; wet up the corn starch with a little cold water, and as the other comes to a boil, stir in the starch and let it cook a very few minutes, stirring it to prevent burning upon the bottom; then remove from the stove. Pour the whites off from 2 of the eggs, and beat up the balance all together and stir into the Pie mixture, while it is still hot. The butter and salt to be added at this time. Peel the skin from the Lemons and cut the insides, very fine, into the mixture; and chop up the peel finely also, with the chopping-knife and put in; then stir all well and set back upon the stove for a minute, or two, then dip into the crust. This amount makes only 2 round-pan pies. When done, beat the whites of the eggs several minutes, with a table-spoonful of white sugar and spread over the Pies, and brown nicely. This amount makes the Pies none too thick to suit most people. Any one desiring sourer, or sweeter, or less in thickness, after a trial, can vary it to suit themselves.

3. Lemon Pie.—For 1 Pie, take 1 large Lemon, or 2 small ones, peel and slice. The crust being ready upon the plate, put on a large cup of sugar, and place the sliced Lemon upon the sugar; chop the peeling fine and spread it over the slices and dust over about 1 spoonful of flour; then take half a cup of water and dip it, with a spoon, over the whole, before putting on the top crust. Bake same as the orange.

4. Lemon Pie—Extra.—Take 3 good sized Lemons; 2 eggs; raisins, sugar, and water, of each, 2 cups; sweet cream, or rich milk, 4 table-spoonsful; flour, 2 table-spoonsful.

Roll the Lemons, then grate off the yellow, which contains the flavor, and peel off the white and throw away, because it is bitter; now cut in two, squeeze out the juice, and chop the pulp and the raisins fine; beat the eggs, sugar, flour, water, and cream together, in the order named, and stir in the juice; a rich paste for 2 pies, with 2 crusts being ready, put in the mixture, using the white of egg as mentioned in No. 6, to prevent the juices from running out, cut an ornamental center, to let out the steam, bake to a nice brown. I think there are but few who will not consider them extra nice—molasses, or sirup, 2 cups, may take the place of the sugar, using water only $\frac{1}{2}$ cup, but the sugar is preferable.

5. Mince-Pies.—Boil the beef or tongue until perfectly tender; clear it from the bones; chop it fine, add an equal weight of chopped tart apples, a little butter, or fine suet. Moisten with cider, wine, or brandy; sweeten with sugar and a little molasses; add mace, cinnamon, cloves, and salt to suit the taste; also raisins, citron, and Zante currants. Make the Pies on shallow plates, with an opening in the upper crust, and bake them 1 hour, in a slow oven.

6. Mock-Mince, or Cracker Pie for Dyspeptics.—Take 8 good sized Crackers, and roll them fine; water, molasses, and brown sugar, of each 1 cup; vinegar and butter, of each, $\frac{1}{2}$ cup; raisins, nicely chopped, 2 cups; cinnamon, allspice and cloves, of each, finely ground 1 small tea-spoonful. Make 3 Pies.

Before putting on the top crust, wet around the outer edge of the bottom one with beaten white of eggs, which by the pinching, cements the two crusts together preventing the juices from flowing out and this plan will hold good with any juicy Pie. This was a favorite with us at the Russell House, and it still "holds its own."

7. Another Mock-Mince-Pie With Eggs.—There may be some who would prefer to use Eggs as follows: Six crackers powdered fine, molasses and sugar, 1 cup each; vinegar and butter, $\frac{1}{2}$ cup each; raisins chopped fine, $\frac{1}{4}$ lb.; 2 beaten Eggs, in place of the water; raisins to taste.

8. Orange Pie—For 1 Pie, take 2, or 3 Oranges, according to size, peel and slice. The crust having been put upon the plate, sprinkle over the crust, 1 small cup of sugar, then place the sliced Oranges upon the sugar, and add a very little water, to make it sufficiently juicy. Put on a top crust, the same as directed for "Mock-Mince," above, bake to a nice brown.

9. Pumpkin Pie.—Choose the best Pumpkins that can be found. Take out the seeds, cut the rind carefully away, and then cut the Pumpkin into thin and narrow bits. Stew over a moderate fire in a little water, just enough to keep the mass from burning, until soft. When sufficiently cooled, rub through a sieve. Sweeten with sugar. The sugar and eggs should be beaten together. The flavoring requires ginger, or nutmeg, and salt. Take 1 qt. of Pumpkin, add 1 qt. of milk and 4 eggs for ordinary richness.

Heat the Pumpkin scalding-hot before putting it upon the crust to bake, otherwise the crust will be soaked. Bake in a very hot oven.

10. Tart-Pies.—Stew the apples, peaches, or cranberries, and strain when soft. Grate in lemon-peel; add sugar to suit the taste. To make the Pies cut smooth, add a beaten egg for each Pie. Make an under crust of pastry; put upon it the fruit; ornament with a rim and narrow strips of pastry. As soon as the crust is done, remove from the oven.

1. PILLS—Liver Pills—New.—Take ex. of dandelion, $\frac{1}{2}$ dr.; ex. of hyoscyamus, 15 grs.; mandrake and bloodroot, of each, very finely pulverized, $\frac{1}{4}$ dr.; oil of peppermint to work it into Pill-mass. Divide into 3 gr. Pills, or about 35 to 40 Pills.

Dose.—To act gently upon the Liver, take 2, or 3 at bed-time, and if they do not move the bowels the next day, repeat 1, or 2, at night again, and so along, to cause a daily movement; but not to exceed two, without lessening the Dose. For a more active cathartic, see CATHARTICS, and no. 2, below. But for a torpid and inactive Liver I have found no combination of medicine to work so satisfactorily. It is alterative as well as corrective, lessening the tendency to constipation, but never increasing it. I keep these in the house for personal use.

2. Cathartic and Liver Pills.—Podophyllin, 20 grs.; leptandrin, sanguinarin, ipecac, and Cayenne, of each, 15 grs.; ex. of mandrake, and hyoscyamus, of each, 10 grs.; oil of peppermint to work it. Divide into 30 Pills.

Dose.—As an active Cathartic, 2 to 4 Pills; as an alterative upon the action of the Liver, 1 Pill daily, or every other night, as found necessary for a daily movement.

3. Laxative Pill.—Podophyllin, 15 grs.; leptandrin, and the compound ex. of colocynth, of each, 1 dr.; ex. of dandelion, and Castile soap, of each, $\frac{1}{2}$ dr.; ex. of belladonna, and pulverized ipecac, of each, 6 grs. Mix and divide into 180 Pills.

Dose.—The proper Dose will be explained in the following history of this Pill—It originated with Prof. Edwin Freeman, of Cincinnati, who is a practitioner in that city, and also a Professor in the Eclectic Medical Institute, and in presenting this Pill to the profession, through the *Eclectic Medical Journal*, made the following explanation of his manner of using it. He says:

"I have used this Pill for a long time, and as it meets a good many indications, is very easy to take from its minuteness, and does not gripe nor render the patient sick at the stomach, I think it proper to call attention to it.

"Ordinarily 4, to 6, taken at bed-time, are sufficient to give two, or three deflections" (movements) "in the morning, without irritating the stomach or producing a severe effect, and this may be repeated the next night if necessary, and the patient will continue to feel improved.

"FOR HABITUAL CONSTIPATION, I usually begin with a cathartic Dose. I follow this with 1, morning and night, or 2 at night and one in the morning, if 1 be not sufficient, until the bowels become quite free. I then give 1 at night, and when the patient shall, from this minute dose, be able to relieve himself, I leave off altogether.

"I have observed that podophyllin is often objectionable to an irritable stomach and duodenum by being given in too large doses, and uncombined with any agent sufficiently active to carry it speedily out into the intestinal canal, and I almost invariably make such a combination when I give it as a cholagogue cathartic" (a medicine calculated to act on the Liver, carrying off the bile). "I like belladonna in this connection, as I imagine that it assists in breaking up passive liver congestions."

He formerly used them by dividing into 60 Pills; but of late, and to be used as a corrective, as above recommended, he thinks their action is better in the small division. I am as much, if not more in favor of the use of hyoscyamus, as will be seen in No. 1, above, as Prof. Freeman is of the belladonna. The hyoscyamus is, I think, the most soothing and calmative in its action, but a like quantity of it might be used with the belladonna, should any one choose to do so, as it is valuable against constipation, acting also, more than the belladonna, upon the sympathetic nerves.

PIMPLES AND FACE WORMS—to Eradicate.—For Pimples on the face, dab the spots 3, or 4 times daily, with strong spirits of camphor; and take a little sulphur, every second evening for 2, or 3 weeks, which has been mixed up with a little sirup—not over $\frac{1}{2}$ a tea-spoonful. This will also Eradicate Face Worms, if any exist.

1. PLOWING—DEEP AND SHALLOW—the Best Time for Either.
—"It is said that everything has, at least, two sides, and Plowing does not offer an exception. One party says, 'Plow Deep, or reap a poor harvest,' and another says, 'Do it, and get no harvest at all.' These parties seem to be antipodes" (opposites) "on the Plowing question; but, in reality mean about the same thing. The first, by Deep Plowing, simply intends to say, not that scarifying the soil a few inches deep will not produce a tolerable crop, when the process first commences; but that following this up will ultimate in little more than the seed, even by the aid of manure. The second, in objecting to Deep Plowing, because it throws to the surface for the seed-bed, cold, stiff, and inert matter, does not really imply that at some time, not remote, this may be a beneficial proceeding. Present results are looked at by one party, and future ones by the other.

"If land, Plowed Shallow for a series of years, is Deeply broken up in the Spring time, making the seed-bed a subsoil one, it is pretty safe to assume that the Summer crop, whatever it may be, will not show any improvement over the previous one produced by Shallow Plowing. But suppose the Deep breaking up is done in the Fall, allowing the frosts of Winter and Spring to act upon this sub-stratum, molting and pulverizing it, does any experienced farmer doubt that an added lease of fertility has been secured by the pro-

case? This is a fair statement of the question of Shallow and Deep Plowing, and properly understood, there is little, or no antagonism" (opposition) "between those who are regarded by some as occupying antagonistic positions."—*Rural New Yorker*.

My experience has shown me, that when a farm has been over-worked, where the Plowing has also been *Shallow*; for Spring crops, Plow about 1 inch, or 1 ½ inches deeper, only, than has been formerly done, you begin at once, to get the benefit from Deep Plowing; then, in the Fall, go 2, or 3 inches Deeper, still, and you soon get the full benefit of Deep Plowing, with none of its drawbacks.

2. Fall Plowing of Clay Lands.—The treatment of Clay Lands, as far as all the operations of culture are involved, is in many respects widely different from that of sandy Lands. In some particulars the very opposite treatment is required. Under draining is the first step towards the best system of culture on Clays; and Fall Plowing is indispensable, whether the land is under-drained or not. It is, in fact the only economical way of getting Clay soils into anything like tillable order for Spring crops. Probably one-quarter to one-third of the labor of fitting such Lands for corn, may be saved by Plowing before Winter.

We find, indeed, that many farmers who own sandy, or gravelly-farms are frequently practicing Fall Plowing, and believe they find an advantage in the system, not only in the saving of time in the Spring, but in a certain amelioration of the flinty soil, which the frosts effect very cheaply. Any improvement which can be brought about during the Winter months is doubly profitable, for time is saved, and the frost does just what the cultivator and harrow would be employed to do.

POISONING—ACCIDENTAL AND SUICIDIAL—Remedies.—No one, perfectly in their right mind, it would appear to me, would attempt to cut short their own lives; for although an exact appreciation of the suffering they bring upon themselves may not be fully realized, yet, I should suppose that the thought of it would be sufficiently appalling to deter any one from it. Could they see the agony of one under the influence of a corrosive Poison, it certainly would be more than one could contemplate with any degree of composure; hence, I am bound to believe that it arises from at least, a temporary insanity. Whenever a well grounded fear of such an undertaking is forced upon you, guard well the person, and let no possible chance occur, wherein the person might accomplish the undertaking. But as the space which I originally intended this Book to occupy as a whole, is already filled, I shall put the Receipts and general directions under this head, in the smaller type, as I hope they will not have to be read so often, for actual use, as to make it burthensome for any one to read them.

I shall only take up such articles as are used ordinarily, about the house for domestic uses, or which may be resorted to generally, for self destruction.

1. Poisoning by Opium, Morphine, Laudanum, etc.—As Laudanum is probably the most commonly resorted to, by the insane, of any of these articles above named, for the purpose of destroying themselves, and as the treatment, symptoms, etc., would be the same, I need not make any farther distinction, but proceed to the:

Symptoms.—The Symptoms of Poisoning by Opium, Morphine, or by Laudanum, would be the same—stupor, or insensibility, and also a disposition to sleep, and so far as the person is concerned, an absolute inability to prevent themselves from sleeping. This indicates, at least, a part of the

Treatment.—The person must be aroused by shaking, and if already very stupid, by dashing cold water upon the face, neck, and breast, especially if snoring, or as the doctors would say, "*stertorous breathing*" has set in. In the meantime, let some one mix a *tea-spoonful* of ground mustard, and half as much salt, in a little warm water, or strong coffee, or strong tea, warm, and pour it down, repeating it every five to ten minutes until free vomiting takes place; at the same time, with an assistant upon each side, keep the person in constant motion; no matter how much he may try to lie down, for six to eight hours, as the effects of opium do not work off entirely, in less time. But few, temporarily insane, desire to make the second attempt—the suffering is sufficiently horrible to arouse the better feelings of their nature, and overcome the fatuity, or illusory conditions of mind that have led to such an attempt to avoid some imaginary evil.

2. Poisoning by Arsenic.—This article probably, is, next to laudanum, the most frequently obtained for the purposes of Suicide, and as "*rat-poison*," etc., is more frequently than any other Poison, likely to have Accidents arise from its being about the house,

Symptoms.—The first Symptoms arising from its use is *nausea and faintness*, which are soon followed with *burning pain* in the stomach, with obstinate vomiting, dryness of the throat, with craving for drink, any kind of which intensifies, or increases the vomiting; finally diarrhoea, distended bowels, small, quick and feeble pulse, cold and clammy surface, perhaps delirium, convulsions, and death finally relieves the sufferer.

Treatment.—Whenever it is believed that Arsenic has, accidentally or intentionally been taken, if there are eggs in the house, let the whites of 2, or 3 be got down as soon as possible, if no eggs are at hand, milk, or oil, or melted lard, be swallowed, then tickle the throat and fauces with a feather, or with the finger, to excite vomiting without delay, as every minute adds to the danger: in the meantime, repeat the mustard and salt emetic, as with the Laudanum, also repeating the oil, egg, milk, or lime water and the emetic, by the feather, finger, or mustard for several times, to get as much of it out of the stomach as possible. And if assistants were at hand, one should have started to the drug store for the *hydrated sesqui-oxide of iron*, to be given in doses of a *table-spoonful* every *fifteen* minutes, until relief is obtained.

Second: Since the use of *Paris-green* for the destruction of potato-bugs, the following item was published, I think, by the *Hearth and Home*, showing how to make a substitute for the *hydrated oxide* above called for, or rather what I should call, a "home-made" *hydrated sesqui-oxide of iron*, where druggists do not keep it. It will undoubtedly be found to answer every purpose of the other. It is made as follows:

"Dissolve copperas in hot water, keep warm, and add nitric acid until the solution becomes yellow. Then pour in ammonia water—common hartshorn—or a solution of carbonate of ammonia until a brown precipitate falls. Keep the precipitate moist and in a tightly corked bottle. A few spoonfuls taken soon after even a bad case of Poisoning with *Paris-green*, or *Arsenic*, is a *perfect remedy*. Every farmer who uses *Paris-green* for the bugs should keep this medicine always in his house."

3. Poisoning by Corrosive Sublimate.—Accidents sometimes arise from this article being used in solution to destroy bugs, about the house, and it is occasionally resorted to for Suicidal purposes.

Symptoms.—The Symptoms are very similar to those from arsenic, with the additional irritation which extends to the urinary organs; and in case no relief is obtained, and the worst conditions arise, the dryness of the throat may even prevent speech, and a dozing, or stupor may also arise, as in Poisoning with laudanum.

Treatment.—White of eggs, milk mixed with wheat flour, or water mixed with the same, as thick as it can be got down, saleratus water, flaxseed tea, weak lye, any of them, and the prompt emetic—never use lobelia, or any other of the slow acting emetics in case of Poison, as the sickness caused before they act, only makes the case worse. If the patient is saved, in case of Poisoning by Corrosive Sublimate, salivation will undoubtedly arise to annoy them.

4. Poisoning by Strychnine.—Strychnine is sometimes resorted to for self destruction, and accidents have arisen from its having been used as a "rat-poison." If taken with a purpose for destruction, unless their hopes is to go quickly by taking a large dose, its work is generally quick, and the destruction pretty certain—an over-dose may cause its own rejection by vomiting.

Symptoms.—The first sensation arising from its use is said to be a feeling of weight, and consequent feebleness of the limbs, followed with rigidity and spasms of the limbs in case of motion; and if the dose is only such as to take its fullest effects, the entire body will be convulsed, and the suffering extreme; and whoever sees it will desire to be excused from even beholding it again—death closing the terrible suffering.

Treatment.—A mustard, or mustard and salt emetic, as in No. 1, as there is nothing quicker than this; pour down $\frac{1}{2}$ pt. to 1 pt. of sweet-oil, lard-oil, or melted lard forcing its ejection by thrusting the finger down the throat as soon as the oil is down, then repeat the oil again, and its throwing up also in the same manner, for 2, or 3 times; then if there is any gum camphor in the house, give half a tea-spoonful of it, in powder, and repeat in 15 to 20 minutes for 2, or 3 times; and if no camphor gum is at hand, give the spirits of camphor, in table-spoonful doses, 2, or 3 times, after which a little chloroform may be inhaled to quiet the remaining distress.

Dr. Gunn in closing his remarks on Poisons, in his "New Domestic Medicine" says: "Always remember that sweet, or olive-oil is an antidote to all vegetable and animal Poisons, as well as most mineral Poisons. Give it freely." Although I think this is "putting it on rather thick," yet, it is a good article, and should be kept in every house.

Besides what has been recommended here, in cases of Poisoning, that every one may know what to do *at once*, I most certainly advise the sending for a physician, and allowing him to take the full charge of the case, as soon as he arrives, telling just what has been done and doing as quickly as possible what you are prepared to do.

1. POLISH—FRENCH FOR FURNITURE.—The celebrated French Polish for reviving old Furniture is made as follows:

Alcohol, 1 qt.; pale shellac, $1\frac{1}{4}$ lbs.; gum mastic, lightest colored, 2 ozs.

Dissolve without heat, by shaking, or stirring until all is dissolved. Apply with a sponge, or soft woolen rag, and rub down with a dry soft rag.

2. Polishing Furniture.—Ladies will be glad to know that a little sweet-oil

spread over their Furniture with a bit of rag; then rubbed with a piece of old soft silk until it is properly dry, gives a beautiful gloss.

PORK—DIFFERENT AMOUNTS FROM FIFTY POUNDS OF CORN, DIFFERENTLY FED.—An experiment was made in Ill., and reported through the N. Y. Farmer's Club, showing the Amount of Pork made from 50 lbs. of Corn, the swine being over 4 months old, and put in comfortable pens with plenty of dry straw; as follows:

50 lbs. of Corn, whole and raw, will make	10 lbs. Pork.
50 " " ground " " "	15 " "
50 " " " and fermented, will make	17 " "
50 " " cooked " " "	21 " "

I have no doubt but what this would be about the proportions of Pork made from that amount of Corn under the different plans, of preparing it. In sections of country where Corn fetches a good price, this saving of it would be advisable; but in Ill. where Corn is so plenty and cheap as to allow of its being used in the place of stove-wood there would be no particular object in saving it, for the labor might as well be given in raising more Corn, as to be spent in grinding, cooking, etc., except perhaps, the teaching of those around you that there is a *right*, as well as a *wrong* way of doing things.

POTATOES—their Value as Food for Stock.—A subscriber asks us whether Potatoes are worth more than 25 cents per bu. for feed. We do not think they are worth so much if fed raw, but when cooked we have fed them to Stock rather than sell them at 40 cents. Potatoes contain a large percentage of starch" (from 11 to 25 per cent), "and are estimated to be worth more than carrots and half as much as hay, weight for weight, but if fed raw, much of the starch, which would be utilized if they were cooked, escapes undigested.—*Hearth and Home.*

POWERFUL CEMENT, For Wood, Porcelain, Glass and Stone.—A Cement of great adhesive power may be made by rubbing together, in a mortar, two parts of nitrate of lime, twenty-five of water, and twenty of powdered gum Arabic, this forming a transparent Cement of wonderful strength, and applicable to Wood, Porcelain, Glass and Stone. The surfaces to be united should be painted with the Cement, and firmly bound together until the drying is complete.—*American Artisan.*

2. Powerful Liquid Glue—also Water-Proof.—A powerful Liquid Glue can be made by dissolving Glue in nitric ether. This ether only takes up a certain quantity of Glue, so that there is no danger of the solution being too concentrated. The Glue obtained in this way can be made to have the consistency of molasses, and its power is twice that dissolved in hot water. A few pieces of India rubber of the size of a bullet put into the glue, and well shaken, will dissolve in a few days, and add to the adhesiveness of the preparation, and also make it proof against the action of moisture.—*Journal of Applied Chem.*

1. PUDDINGS—All the Year-Round Pudding.—Line a basin with paste, and spread on 3 table-spoonful of any fruit-jam—raspberry is very nice—have beaten together, bread crumbs, sugar, and butter, of each, 3 ozs.; the rind grated, and the juice of a small lemon; add all to the jam, and bake $\frac{1}{2}$ an hour. Eaten with any sweet sauce.

2. Apple Charlotte Pudding, for Dyspeptics.—Line a well-buttered dish with evenly-cut slices of bread, removing the crust—a stale loaf of light bread is the best; reserve 2 circular slices for the bottom and top. Butter the slice only on the side touching the dish. Have ready some stewed tart apples, cooked with as little water as possible. Sweeten and flavor with lemon, or nutmeg. Fill the dish with the Applesauce, stirring in a tea-spoonful, or more of butter; put on the circular cover of bread, well-buttered on the upper side; press it closely upon the Apples. While the Pudding is baking, cover it with paper for $\frac{1}{2}$ an hour, and then remove the paper and allow the top to get nicely browned. When done, loosen the bread from the dish with a knife, and turn out the form carefully. To succeed, it is necessary to have the oven quite hot, so that every part of the Charlotte is well browned. The top may be covered with icing, or pulverized sugar. Serve with either hard, or soft sauce. This Pudding is delicious, and, comparing well with the richer Puddings, is one over which the Dyspeptic may laugh and be merry. It may be made of uncooked Apples, if fine tart ones. Peel and core; pack closely in the dish, filling in with cut pieces; flavor with pieces of citron, lemon, or slices of lemon and sugar. Allow 2, or 3 hours' baking.

The only difficulty about this Pudding is, that all who "sit at the table" where it is served, desire to become Dyspeptics, at least as long as the Pudding lasts.

3. Cup Pudding.—Flour, 3 Cups; beef suet, milk, molasses, or sirup, raisins, and Eng., or common dried currants, 1 Cup of each; cream of tartar, 4 small tea-spoonful, and 2 of soda, and 1 of salt.

Chop the suet fine; put the cream of tartar and soda into the milk and molasses, then sift in the flour, stirring thoroughly, and add the suet, fruit and salt, mixing thoroughly. If you have a steamer, steam it 2 hours in a basin, if no steamer, put it into a bag and boil the same length of time, not putting it into the water until the water boils. Serve with your customary sauce. It will be found very light and nice, if done correctly, although no eggs are used.

4. Custard Pudding With Indian-Meal.—Scald 3 heaping table-spoons-

ful of sifted Indian-Meal into 1 qt. of boiling milk. When removed from the fire, add 1 tea-spoonful of salt, 4 table-spoonful of sugar, 1 table-spoonful of butter. Stir together in a little milk, 1 tea-spoonful of strong ground ginger, 1 grated nutmeg, 1 tea-spoonful of ground allspice, and 1 of cinnamon. Add this to the Pudding; 3 eggs, well beaten must be stirred in last. This Pudding requires a very hot oven; bake 1 hour. When properly done it will have a jelly around the edge, and the Custard will be thoroughly blended with the Meal.

5. Indian Meal Pudding Boiled.—Sour milk, or what is better, butter-milk, 3 cups; sifted Indian Meal, 3 cups; flour $1\frac{1}{4}$ cups; sugar, 8 table-spoonful, or molasses to equal it; 1 egg; a little salt; soda dissolved in the milk, 1 tea-spoonful.

Dip the Pudding bag into boiling water; then dust the inside with flour; tie it up allowing a small space for it to swell, and put it in a kettle, having a table plate in the bottom, and water sufficient to cover, already boiling before the Pudding is put in. Boil 2 hours. On taking from the kettle immerse it for an instant in a pan of cold water, then serve with cream and sugar. It is also good eaten cold.

6. Indian Pudding Baked.—Milk, 1 qt. molasses, 1 pt.; 6 eggs; suet, chopped, $\frac{1}{2}$ lb.; Indian-meal, 6 cups; cinnamon, 1 tea-spoonful; a few apples. Warm the milk and molasses together; beat and stir in the eggs; mix the suet with the meal, pouring in the milk and molasses; then slice in the apples. Bake $1\frac{1}{2}$ to 2 hours according to the heat of the oven.

7. Another.—Scalded milk, 3 pts.; flour, 1 good handful; eggs, 3; molasses, 1 gill; salt; Indian-meal to make like batter for pancakes. Bake.

8. Poor Man's Indian Pudding.—Sweet milk scalded, 1 qt.; molasses, 1 cup; salt, $\frac{1}{2}$ tea-spoonful; ginger, 1 tea-spoonful; stir in 7 heaping table-spoonful of Indian-meal. Bake 2 to 3 hours. Eat with butter, or sugar. I was just poor enough, only last week, to like this very much.

9. Rice Pudding—Baked.—Milk, 1 qt.; rice, before boiled, 1 cup; butter, sufficient, a table-spoonful, or 2; a little salt; sugar and raisins to suit. Bake. This may be made from Rice left over from a previous meal; and any spices may be used, if desired. This is for those who do not like eggs, and but little butter in their Puddings; those who like the eggs and more butter will take the following:

10. Rice Pudding.—For a good sized family, boil a sufficiency of Rice until it is perfectly soft; then add butter, and sugar, of each, $\frac{1}{2}$ lb.; 4 eggs; 1 nutmeg; and wine to suit. Bake.

11. Orange and Cocoa-nut Meringue a Substitute for Puddings.—In cases where it is not convenient to have a cooked Pudding, a simple and delicious Meringue may be made as follows: Take 1 doz. sweet Oranges, peeled and sliced, 1 grated Cocoa-nut, and $\frac{1}{2}$ a pt., or more of powdered sugar. Spread a layer of the Orange in a glass dish, scatter the Cocoa-nut thickly over it, sprinkle sugar over this. Then put on another layer of Orange, with Cocoa-nut and sugar over as before. Fill up the dish in this way, having Cocoa-nut and sugar for the top layer. Cut through in sections with a sharp knife when serving. Very nice, even if you could have had a cooked Pudding.

12. Potato Pudding.—Take 6, or 8 large mealy Potatoes, peel, boil and mash; 6 eggs: white sugar, butter, flour, and sour milk, of each, 1 cup; soda, $\frac{1}{2}$ tea-spoonful, rolled fine. Mix the butter with the Potatoes while hot; when cool, add the flour; beat the yolks of the eggs and sugar together; then add them and the whites to the Potato and flour mixture, then the sour milk and beat all well and add the soda. Bake in a buttered pan, in a moderate oven—serve hot—wine sauce, or other liquid sauce.

13. Suet Pudding.—Suet and raisins chopped fine, of each, 1 cup; sweet milk and molasses, of each, 1 cup; salt, 1 tea-spoonful; soda, $\frac{1}{2}$ tea-spoonful; and sifted flour to make a batter as thick as for pound cake; boil in a bag, or what is better steam it. Dried cherries, or dried berries make a good substitute for raisins.

14. Sweet Pudding.—Suet and raisins, as in No. 13; sour milk, 1 cup; 3 eggs beaten; white sugar, 1 cup; soda, 1 tea-spoonful; a little salt; flour for a stiff batter. steam about 2 hours. Liquid sauce.

1. PUDDING SAUCES—Spreading Sauce.—Sugar, 2 cups; butter, 1 cup; beat together, and flavor with ex. of lemon, vanilla, or nutmeg, or grated nutmeg, as you choose. In the season of fresh lemons, the juice of a small one will improve it.

2. Liquid, or Dip Sauce for Puddings.—Sugar, butter and flavoring, as above; water, 1 pt.; flour, 3 tea-spoonful. Bring the water to a boil, having rubbed the flour smooth with a little cold water stir it in, and add the butter and sugar; and just before serving, add the flavoring extracts:

3. Second.—If it is desired to use wine, or brandy in Pudding Sauces, use less water, and when the flavoring extracts are added, put in the wine, at least 1 gill—brandy a little less.

4. Ornamental Sauce for Puddings, Blanc-Mange, etc.—Whites of 4 eggs; strawberry, or raspberry-jam, or the preserved fruits, 1 cup. Beat the whites to a froth and stir in the preserved fruit, and beat well together. The fresh fruit may be used by using a sufficiency of sugar, beating all well together. Served by dipping over Puddings, Creams, or Blanc-Mange.

PUMPKINS TO DRY RETAINING THEIR NATURAL FLAVOR.—Peel and cut as for cooking; then slice them very thin, spread on tin, or other driers and

expose to a moderate heat in the stove oven. Thus Dried, the Pumpkin will retain its Natural Flavor. To prepare it for cooking, soak it in water for a few hours.

It is a well known fact that the Pumpkin, as dried now-a-days, by boiling, mashing and drying, is not equal to the old plan of hanging it up to dry. The above plan gives the Flavor equal to the old plan; but at first, it is necessary to dry it in the stove to prevent souring. It can afterwards be put in the sun, if finished, for an hour, or two in the stove to kill fly deposits which would otherwise produce worms. Then put up in paper bags.

PURIFYING THE BLOOD.—A well known physician says that he considers the following prescription for Purifying the Blood as the best he has ever used:

"Take yellow dock root, 1 oz.; horseradish root, $\frac{1}{2}$ oz.; hard cider, 1 qt. A wine-glassful 4 times daily." Slice the Roots.

That both of these roots are alterative, there is no doubt, and that the cider is valuable in its action upon the system, in dyspepsia, I know. Other roots might be used with these, or substituted for them, by any one who knows other roots to possess such properties as they desire the action of upon their systems.

PUTRID SORE THROAT—Successful Remedy.—Nelson's *American Lancet* gives the following facts in relation to an effectual cure of this terrible disease:

"A boy 12 years old; all the symptoms of *malignant Sore Throat*, with eruption of the face and neck of a dark color; eruption extended over the whole body on the 4th day; symptoms of ulceration and typhoid fever; pulse small, throbbing, and quick; mind wandering, and incessant muttering; inability to articulate intelligibly; alternate severe pains in the head and abdomen, little sensibility in the Throat; small white gray spots throughout the mouth, tongue, and fauces, or Throat, and numerous *petéchiæ*" (purple spots which appear on the skin in malignant fevers) "on the face and abdomen."

"Ordered fresh brewers yeast, and water, of each, $\frac{1}{2}$ pt.; and brown sugar sufficient to flavor—1 table-spoonful to be taken every 2 hours; gargle often with borate of soda (borax), "honey, and strong infusion of sage; occasional sinapisms" (mustard plaster) "to the throat."

"Up to this time, the fever and eruption had been regularly intermittent, coming on about 2 in the morning, and subsiding about 12, noon, when the skin became quite smooth, and very slight signs of the eruption. Great change had taken place the next morning; had rested tolerably well during the night; tongue and mouth nearly relieved and clean, fever and eruption quite moderate, and passed off before 9 o'clock; could eat with facility" (without difficulty), "and food was allowed him freely. He continued the yeast mixture for 2 days more, when all that was required to constitute him perfectly well, was strength."

For many years the yeast plan, in Sore Throat, has been considered very valuable; and the mustard plasters and gargle, as above given, would certainly very much improve the treatment; with soaking the feet in hot water, once or twice, daily, with an occasional mustard plaster to the feet also, and I do not see how anything better could be done.

QUINSY—TONSILITIS.—As remarked under the head of INFLAMMATION, the *technical* names of diseases ending in *itis*, signifies an inflammation; then as Quinsy is an inflammation of the Tonsils, it takes that termination. The Tonsils are two almond-like shaped glands situated, one upon each side of the throat, or fauces, between the two side curtain-like folds of the fauces, the first fold being just at the back part of the mouth, and about an inch, or so from the other—easily noticed on looking into the mouth.

Quinsy is a very singular disease, in as much that generally, the swelling does not spread to the other parts of the throat; and it is singular also in being hereditary with some families, and in fact that those who have it once are more likely to have it again.

Cause.—Whatever will excite inflammation in other parts, is equally likely to Cause Quinsy in those who are at all predisposed to it; and more likely to occur in the opening of Spring than at any other time; then beware of wet feet, or any sudden check to perspiration.

Symptoms.—Quinsy may begin with a distinct chill, followed with more, or less fever, according to the severity of the chill—the more severe the chill, the higher will be the fever, and as a natural consequence, the greater will be the severity of the disease; and the more prompt must be the treatment. But it may manifest itself more mild-

ly, beginning with slight soreness of the throat, increasing however, until the swallowing becomes difficult, the digestion also becoming deranged to a degree corresponding with the other Symptoms. The skin will be dry and harsh, with some fever, and the general secretions considerably lessened, if not almost entirely arrested. Pain will soon arise in the Tonsils, and a constant desire to swallow, and as the inflammation increases, swallowing becomes more and more difficult, and sometimes almost, or entirely impossible, in which cases, of course, the consequences are easily understood. But it does not generally prove fatal. Hoarseness however, is common, and guttural, or throat cough, with difficulty in clearing the throat of the mucus accumulating there, thirst increasing, tongue, and throat swelling, and pulse rising perhaps to 130, or more to the minute; the patient being obliged to keep the sitting position to prevent suffocation, until the suppuration, which often takes place, has become "ripe" and breaks, giving almost instant relief. In such cases keep from swallowing the matter if possible. It may occur in one Tonsil, or in both at one time; but more commonly only in one.

Treatment.—The disease being an acute inflammation of the Tonsil, or Tonsils, it stands to reason that if anything can do any good, such general Treatment as has been recommended in the different inflammations, as in ERYSIPELAS, INFLAMMATION of the LUNGS, and PLEURRA—SWEATING, etc., if promptly taken up might reasonably be expected to break up the disease, a prompt emetic, will also be found a great help in accomplishing this undertaking, at any rate, this course will put the system into the best possible condition to combat with the enemy—Quinsy—following the foregoing Treatment with an active cathartic will also further this end.

The VOLATILE LINIMENT recommended to be applied to the throat, in the EPIZOOT, or HORSE EPIDEMIC of 1872, will be found equally valuable applied to the throat in this disease, keeping the throat covered with flannel, using all the liniment that can be borne without causing too much external irritation; using at the same time appropriate INHALATION, which see, or inhaling the steam from having boiled hoarhound, catnip, bonset, sage, wormwood, hops, etc., all, if to be obtained, if not, not less than 3, or 4 of them. The steam may be breathed from the spout of a tea-pot, or by means of the INHALER, keeping it as hot as can be borne for 5 to 10 minutes at least, every 2, or 3, or 4 hours, as the case seems to demand. If this Treatment does not break up the inflammation and stop the progress of the Quinsy, then it has been the custom to moderately continue the Treatment, modifying any part of it according to the condition of severity, until the ulceration, or maturation has become complete, and breaks, or is lanced, as may be deemed best, from which time the relief, and improvement will be very rapid. If the fever, in any case, should become very high, use the FEBRIFUGE, according to directions under that head. A gargle of sage tea, borax and alum, has also proved valuable.

BUT PROF. SCUDDER in his Eclectic Practice informs the profession that he has found the use of *aconite* in spray, to the warts, "almost specific" (positive cure) "in the early stages of the disease." In applying the spray, he uses the tinct. of *aconite* 1 dr. to water, 4 ozs.; but the steam may be used, in which case he only uses 2 ozs. of water to the dr. of tinct. He uses it as often as once in 4, or 5 hours, for 5 minutes at each time, until relief is obtained. In many cases," he contin-

ues, "I have succeeded in arresting the disease with one application." But, he adds, "it is well to have the patient spit out the aconite that accumulates in the mouth, as there will be too much to swallow."

This last precaution is very necessary to observe faithfully; and although I have not had an opportunity to try this myself, I have the utmost confidence in it, and if there was no means of atomizing the spray, at hand, I should recommend to use the 1 dr. of tinct. of aconite to 4 ozs. of water, and gargle with it, being careful to spit out the fluid, repeating the gargle 3, or 4, or 5 times, at each gargling, and to do it as often as above recommended in applying the spray.

In all cases where the disease continues to suppurate, it is best to await its own opening, unless there is danger of suffocation by the extreme swelling, in which case, it would, as a general thing, no doubt be best to call a physician to lance it, although there would be no danger unless the knife, or lance was thrust deeper than there was any necessity for. Sometimes this disease occurs so often with persons predisposed to it, that the Tonsils become permanently enlarged, so much so, it is deemed best to cut them off, thereby removing the possibility of its occurring again—this also is the work of a surgeon, and a good one, at that.

Q. MISCELLANEOUS RECEIPTS. Q.

QUACK-GRASS, TO DESTROY; AND PROPER MANAGEMENT OF A SUMMER-FALLOW.—A correspondent desires us to give our views on the best methods of destroying Couch-Grass, and also on what a Properly Managed Summer-Fallow should be. First, as to the Couch-Grass. We know of no way of destroying this, but plowing, harrowing, and bringing the roots to the surface, and *gathering them up and burning them*. They are then effectually disposed of. Let this be done persistently and thoroughly, and the pest will be got rid of. If a common harrow does not bring the roots to the surface, make some teeth slightly curved forwards at the bottom, and use them in the harrow, and all the roots will be torn up in time.

Second, our ideas of a Properly Managed Fallow are that it should consist of plowing, harrowing, rolling, if necessary, picking up and destroying weeds that can not be killed by any other means, and by the use of all the devices known to agriculture to reduce the soil to a proper tilth, or condition, and to destroy all weeds. If these two things are done by any means—and whatever they may be we do not care, so that the ends are accomplished—we should then say that we had a Properly Managed Summer-Fallow. But a Fallow that presents a green surface is not Properly Managed, nor is one in which roots that are tenacious of life are permitted to lie on the surface in the vain hope that the heat of the sun will kill them, but which revive and sprout, with the first shower. Work on a Summer-Fallow must be constant and judicious to be effectual.—*American Agriculturist*.

Certainly the foregoing instructions are worthy of attention. The main objects of Summer-Fallowing is to give *rest* to the land, and to *kill weeds*, then if they are allowed to grow all over the field, for the want of being kept turned under, what rest does the land get?—plough and harrow sufficiently often to keep them down, is the only course to do much good.

BUT SHOULD the above plan fail to destroy all of the "Quack-Grass," which is also known as couch-grass, also known in some places as twitch-grass, quich-grass, quich-grass, witch-grass, dog-grass, and creeping-wheat-grass, follow up the Summer-Fallowing, after the wheat is off, by cultivating corn and hoeing it thoroughly, then plow well in the Fall, and as soon as the ground becomes dry in the Spring, put on a good cultivator, work up the roots, and expose them to the frosts at night and sun by day; then put on a harrow with the teeth pointing a little forward; when the drag gets full, raise it up and drop the roots in rows so as to gather them up and put into the compost-heap, and by thoroughly working the land every other day for 6 to 10 days, the roots will be mostly extracted, and the land brought under good cultivation.

Although Quack-Grass may remain, if not properly destroyed by cultivation, in land after it has been made quite rich, yet, it is believed not to start in lands unless they have been over-worked, and consequently become poor—then to avoid the labor of its destruction, keep your land in good condition, and cultivate it thoroughly, when under cultivation.

RHEUMATISM.—This disease is one of those mysteries, the cause of which, as well as the treatment, has baffled the medical profession from its earliest history to the present time; and there has not

been any satisfactory agreement, even yet, as to its positive character—one claiming it to be an inflammation, and the other that it is purely and absolutely nervous. It has features that satisfy the disputants upon both sides that *their's* is the right side; while the *facts* would seem to indicate it to be a *mixture* of the two—originating, probably, in the nerves, but extending *to*, and exciting *in* the fibrous portions of the joints and muscles an inflammatory action which has been taken, like fevers, for the disease itself; and this, it is considered is well established by the fact of its translation, or change from one part to another called *metastasis*, which is not the case in purely inflammatory diseases. Both parties agree however, in supposing the disease to start from poisonous matter retained in the blood from a failure of some, or all of the secreting organs, or functions to carry off such matter as is taken into the system which does not go to build it up; or of matter that has done its work and then becomes necessary to be carried out, called *effete*, or wornout matter, which in the failure of the secretions to carry out, is deposited in the fibrous tissue of the joints, and tendinous parts of the muscles, producing, when the more *acute* or inflammatory form of the disease is neglected or improperly treated, the *chronic*, or lingering form of Rheumatism so difficult to cure.

Cause.—Although it is believed that the first start, or Cause of Rheumatism is as above stated, yet, the absolute, or exciting Cause, is generally set down as cold, from changes in the atmosphere, check of perspiration, arrest of secretions, fits of indigestion from over-eating, etc., etc.; but the acute disease is most likely to arise from exposure to wet and cold, sometimes after violent, or long continued exercise by which the whole system is very much prostrated and fatigued.

Symptoms.—Chilliness, or even a well marked chill most generally ushers in the disease, followed, perhaps, with high fever, intense pain, a furred tongue, a full and active pulse, followed with profuse sweating which has a sour smell, reducing the strength but not relieving the pain; the urine will be high-colored and scanty; the joints swelling, and very tender to the touch, and manifesting the most excruciating pain on any attempt to use them. And this is that form of the disease liable to *metastasis*, or change from one place to another; the word coming from Greek words which signify *from*, and *place in another way*, and sometimes it goes to the heart, when it is almost always fatal; but I am glad to be able to add that this is not common—only occasional; yet it quite often changes from one joint, or set of joints to another.

Treatment.—If I have led my readers this far through "Dr. Chase's Family Physician and Second Receipt Book," without having fairly indicated, and most thoroughly instructed them to a correct understanding of the Treatment for the conditions here pointed out, I have most certainly labored in vain.

First, then: If the skin is deficient in action, take a *sweat*, once in 2, or 3 days, or, otherwise *sponge the whole surface*, at least twice daily with strong camphor spirits, or Cayene and whisky (the first is best if alcohol is used, with 4 ozs. of camphor gum to 1 qt.).

Second: To reduce the pulse and overcome the fever, administer the *febrifuge*, as directed under that head, to accomplish the object sought, or at least to keep it within reasonable bounds.

Third: If the stomach is over-loaded, or deficient in action, throw it off and stimulate it to action by an *emetic*, repeated perhaps, once a

week, as required, following with tonics and alteratives as demanded by the condition.

Fourth: If the bowels are inactive, which they generally are in this disease, the *onic cathartic*, and if need be *injections* will correct it, if properly followed.

Fifth: The kidneys being deficient in their action, the *acetate of potash*, will equal, if not exceed any other diuretic in this difficulty.

Lastly: To subdue and quiet the pain in the parts, let the free use of the *nuralgia liniment*, lethian liniment, volatile liniment, or such other as may be at hand, or easily obtained, be applied, and if absolutely necessary, opium, or morphine may be given internally to help allay pain; but let them be discontinued as soon as possible, lest a habit be established for their continued use. But now do not let it for a moment be supposed that this plan will cure every case; for if it would, the "mystery" of the disease would be at once removed, and it would stand, like other diseases, shorn of its strength, it will however, if taken in hand promptly, relieve very many cases, and save, or prevent the establishment of chronic Rheumatism; yet, if this does not cure at once, it is following a Common-Sense course, calculated to correct the *secretions* and to bring about a healthy condition of the system, which must certainly be accomplished before a return to health can be expected.

Chronic Rheumatism.—This form of Rheumatism is seldom attended with much fever, and it is generally confined to the joints; but may affect the muscles of the shoulders, hips, loins, back, head, etc. And although it is not supposed to be attended with inflammation; yet, as it is quite often attended with enlargement of the joints, I think there is, at least, a little inflammation, for without it there would be no considerable enlargement. Old persons are the most subject to this form of the disease, and with some of them it has proved very obstinate—even incurable. Young persons may have it, of course, but it is not so common with them, nor so obstinate in resisting reasonable and persistent means of cure.

BESIDES the foregoing Treatment, it is deemed by many, necessary to give an *alterative* which shall also have a tendency to correct the action of the secretions, and prevent the formation of the poison that they believe to be the real *cause* of the disease; and among the articles recommended as a *specific*—positive cure—in Rheumatism, is the *black cohosh* (*cimicifuga racemosa*—by physicians, it is more commonly called *macrotys*—it is claimed that the leaves of this plant drive away bed-bugs, hence the first part of its name from *cimex* a bug, and *fugo*, to drive away, it is also known as rattle-root, black snake-root, squaw-root etc.) Gum guaiacum (or what is a more satisfactory name for us to pronounce, is, *guiac*, the former being the Haytian name, from whence it comes), is also considered specific in its action against Rheumatism, so also is our common pokeroot.

Dr. Gunn, in describing the *guiac*, after saying that it is "a great Rheumatic remedy," says: It is usually taken in tinct. in doses of 1 to 3, or 4 tea-spoonsful, 2, or 3 times a day. But a very good way to use it for Rheumatism is in bitters; that is, say 1 oz. of the gum powdered, and put into 1 qt. of good old rye whisky, and taken in ordinary sized-doses" (the same as given just above), "3, or 4 times a day. By adding 1 oz.; each, of pokeroot and black cohosh root, you have one of the best articles there is for constitutional, or general Rheumatism,

or chronic Rheumatic conditions of the system." Of course these roots should be pulverized, and stand 10, or 12 days, shaking daily, to get the full strength, or if needed sooner it must be kept warm, but corked to prevent evaporation:

Colchicum, seed or root, has also been considered specific in its action against Rheumatism, either taken in tinct., or pulverized and mixed in sirup; in the form of the compound tinc., it is probably as good a way as any to take it.

Prof. King in the American Dispensatory, 8th Ed. 1871, says of this tinct. It "forms an excellent agent in inflammatory Rheumatism and gout, and has proved a superior remedy in *phlegmasia dolens*, or the swelled leg of *parturient* women." It is made as follows:

"Colchicum seed, in fine powder, 2 ozs.; black cohosh root, made fine 3 ozs.; diluted alcohol, 2 pts. Form into a tinct. by maceration" (standing,) "or by displacement" (leaching), "or it may be made by adding together equal parts of the tinctures of Colchicum seed, and black cohosh root."

Standing 2 weeks and shaking daily will do as well for home use.

Dose.—"The Dose is from 10 to 60 drops, in a little sweetened water, every 1, 2, 3, or 4 hours. Iodide of potassium, 15 grs. to the oz. of Tinct. may frequently be added with advantage."

1. THE BLACK COHOSH, alone, has also acquired the reputation of being a specific in *acute*, or inflammatory Rheumatism.

A friend of mine, of this city, a Mr. Morris—having experienced its advantages, and knowing of its being successfully used in other cases, gave me his plan of using it as follows:

Tincture of Cohosh for Inflammatory Rheumatism.—

Whisky, 1 pt.; black Cohosh root, 2 ozs. Dose—1 table-spoonful, 3 times daily.

2. I SHALL NOW proceed to give a prescription for an **ALTERATIVE TINCTURE FOR RHEUMATISM**, which combines all of the prominent articles which are accredited as *specifics*—positive cures—in the disease, and also some of the leading articles among those considered highly valuable in it.

Colchicum seed; black cohosh root; bitter-root (*apocynum androsaemifolium*)—I shall give the technical names of only such articles as are not generally known, so that druggists can make no mistakes; this is also known by the common names of dogbane, and milk-weed); pokeroor; gum guaiac; blue-flag root; prickly-ash bark; wintergreen leaves, 2 ozs., and of each of the other *seven* articles, 1 oz.; best gin, 2 qts. Pulverize all, put into the gin, and shake every day for 2 weeks, when it will be ready for use.

If the wintergreen leaves are not to be had, the ess. of wintergreen, 2 ozs. will answer the same purpose; and if all of the articles cannot be obtained—the black cohosh and colchicum seed, and the guaiac, are never to be left out—still the Tincture may be made, and will do well. Whisky may take the place of the gin, but I do not consider it equal; and alcohol 1 qt. and water 1 qt. may take the place of either; but good gin is the best. All of the articles in this Tincture are among those named by Prof. King, in his great work—"Chronic Diseases," which he says, "I have used with the greatest success, for neutralizing, or removing the Rheumatic poison." They are not, however, in the same combination; but as there is no natural antagonism

between any of them, but all agreeing together, and working in harmony, I deem it better than to use 2, or 3 alone.

Dose.—A table-spoonful, in a small glass of sweetened water, at meals, and bed-time.

But let it be distinctly remembered, as at first remarked, the general health must be looked after—the skin, the kidneys, the bowels, the liver, and the digestion must all be attended to, aided and assisted when needed, using such remedies as are recommended in their appropriate places for these derangements as they arise—so shall your care be rewarded with success.

3. **THE CARBONATE of Lithia*** has also been found valuable in inflammatory Rheumatism. The gentleman who called my attention to it said he had suffered 2 years with the disease, and at the time he learned of it, he had been confined to his bed for a long time. His directions were to obtain 1 dr. of the salt and divide it into 8 powders, and take 1 for a dose, 3 times daily; and he said the first 8 doses took him off the bed and enabled him to walk about. He was still using it when I saw him. What I have further learned of it is explained in the note. I see no reason why it might not be used, where it can be obtained, in place of the acetate of potash, as a diuretic, in connection with the other Treatment, as first recommended in this disease.

4. It is highly important to keep the bowels *solvent* (i. e. not too loose, nor at all bound up,) in Rheumatism, no matter what may be in use to correct the poison of the blood; and probably sulphur, or salts, are as often prescribed as any other articles. The following is a favorite form to use the first, in combination with such other articles as will also help to correct the general difficulty.

Rheumatic Cathartic and Diuretic.—Best Holland gin, 1 qt.; flour of sulphur, 4 ozs.; tinct. of juniper berries, 1 oz.; ess. of wintergreen, $\frac{1}{2}$ oz. Mix, and shake when taken, as the sulphur settles.

Dose.—A small wine-glassful before each meal until the bowels are gently moved; then wait a day, or two, and repeat, as at first. The gin, juniper and wintergreen works on the kidneys, which, in Rheumatism, are nearly always at fault, besides making a means of easily taking the sulphur, which works on the blood, as well as the bowels, materially correcting the whole difficulty.

SECONDLY have the oil of cedar on hand, and rub the affected part with it, the same as you would a liniment, 2, or 3 times daily, unless it makes too much soreness, if so, less often. The same treatment as a whole, for *sore throat*, is valuable also, putting 2, or 3 drops of the oil upon sugar and slowly eating it. Apply the cedar oil to the outside of the throat freely also. In cough arising from having taken cold, and for pain in the breast, from the same cause, the cedar oil, or oil of hemlock, taken in the same way, on retiring, is very valuable.

*Carbonate of Lithia is a mineral, first discovered in 1817 (the year of my birth); but of still later introduction into use as a medicine. It has been recommended, in England for internal use for persons troubled with gout, to dissolve the chalky deposits from the joints, or to prevent a further deposit by carrying the lithic acid out of the system, by its action over that salt in the urine, and also in Rheumatism, attention being first called to it, for this purpose, by Dr. Alexander Ure, of London, in 1843. Dr. Garrod, also of London, afterwards says, "he has found the Carbonate of Lithia, in dilute" (weak) "solution, not only to exceed the other alkalies in rendering the urine neuter, or alkaline, but also to act *powerfully* as a *diuretic*, probably more so than the corresponding salts of potassa and soda."

He gives the dose as 3 to 6 grs. and says, "It is most advantageously given in carbonic acid water"—the dose taken by the gentleman who gave me the prescription would be $7\frac{1}{2}$ grs., while 6 grs. would be a medium dose, and safe in all cases.

RICKETS—RACHITIS.—The word Rickets* seems to have no particular meaning except as to its application to this disease; but *rickety*, we all understand to refer to weakness, or feebleness in the joints; it may be said of a person, or of a machine, if want of firmness is manifested, we say they are rickety—have got the Rickets, etc.,—are shaky and weak, especially in the joints.

This is particularly a disease of children, as much as chronic rheumatism is of old age—both distorting to a greater, or less extent, unless properly managed, all who are attacked.

Cause.—Debility, probably, covers the whole ground. If children are stout and healthy, their food giving them its full strength, there is no Rickets—no weakness—no trembling—no distortion, or getting out of shape like an old “rickety-bedstead” tumbling down every time you desire to use it—so with the weak and feeble child, it has scarcely strength even to totter about the house. The bones failing to receive their proper amounts of the phosphate and carbonate of lime, phosphate of magnesia, or phosphate of ammonia, or their oxides of iron or manganese, they are left in their soft, and to some extent, in their gelatinous state, as when born; and they are consequently easily distorted from the weight of the body, or by the drawing of the muscles more in one direction than in the other.

Symptoms.—Besides the Symptom, above mentioned, of general distortion, the bowels often become considerably enlarged; the face may be swollen so as to change the features, more or less; the forehead becoming prominent, the body wasting, the spine usually bending forward, and perhaps having a side curve also, the breast also becoming full and prominent, and the neck being short, the head in some cases, apparently sitting directly upon the shoulders, and the chin upon the breast; the joints may also become enlarged; and the pelvis distorted, so much so, in the female, sometimes, as to preclude the possibility of child-bearing.†

Treatment.—In the beginning of the disease, or upon the first

*Rickets, as applied to disease, by some, is supposed to have been derived from the Greek word which gives the *technical* name of the disease, meaning the same by which physicians know it—*Rachitis*—the back-bone; but there are others who believe it took its common name—Rickets—from a man by the name of Ricketts, of England, who, in about 1620 and from that on for sometime was very successful in curing this disease—this might have been the reason of the name; for, in those early days, it was customary to give names to disease arising from such circumstances; hence *King's evil*, was applied to the scrofulous enlargement of the glands of the neck, because it was then firmly believed that a king's touch would cure it. So firmly was this believed in the time of Charles II, (of England) that in 12 years he applied the “royal-touch” to no less than 92,107 persons, as shown by the records in the royal chapel.

†There was a case, however, in the Northern part of this State where a female with this condition of pelvic difficulty, became pregnant; but the physician haying the case in charge knowing that she could not be delivered in the natural way, brought her to the University, during the medical session, when, after consultation with the Professors, one of them performed what is called the “Caesarean operation,” *i. e.*, cutting through the side of the abdomen, and womb, and taking the child out in that way—called Caesarean, because it is said that Julius Caesar was delivered by this operation—the child lived, and so far as I know is doing well, but the mother died. It is considered a dangerous operation; yet, occasionally even the mother lives. An acquaintance of mine—a physician—who “attended lectures” in Philadelphia, has often told me of “a pair of twins” who were exhibited to the class, that had been delivered in this way, the mother living, and bearing still another child which was also delivered in the same manner, and she still surviving—probably the most remarkable case on record. At the time this gentleman saw the children, they were 11 and 12 years of age—he having attended lectures two winters in succession, the children being presented each year. The mother then, being almost always sacrificed, no man should, for a moment even, permit himself to, think of being the cause of such a sacrifice.

manifestation of any of the symptoms that would lead one to expect the child to be liable to it, let only the most wholesome articles of food be given to it—candies and rich cake must be absolutely prohibited; playing, or romping out-of-doors must be encouraged; and in place of a "dip into a tub of cold water" every morning, or "the cold shower-bath," as was at one time considered almost an absolute necessity, let sponging be done alternately, morning and evening, first with camphor spirits, or the Cayenne and whisky, then the next time with salt water, made just warm enough to be comfortable; and then for the shock that the cold water was intended to give to the system, let there be brisk frictions with the hand, or with a piece of dry flannel, or with a very soft flesh-brush, as may be the most agreeable to the little patient; and the sirup of the hypo-phosphites, which are now kept by druggists, may be given 3, or 4 times a day, in doses of $\frac{1}{2}$ tea-spoonful, or according to the directions accompanying the bottles; or the hypo-phosphite of lime may be obtained and given in 1 to 3 gr. doses, in sweetened water, 3, or 4 times daily, according to its agreement with the stomach, or its apparent benefit to the general system.

As a laxative, to be taken once, or twice a week, according to the condition of the bowels, rhubarb and ginger root, pulverized, of each, $\frac{1}{2}$ oz.; and calcined magnesia, $\frac{1}{2}$ oz.; may be mixed, and given in doses of $\frac{1}{2}$ to a tea-spoonful, according to the age of the child, beginning with the least dose, and repeating it, or increasing it as found necessary, to keep the bowels in good condition—the sulphur and cream of tartar might take its place occasionally. And the acetate of potash, or other diuretics will be used as needed to correct any defects in the action of the kidneys—the acetate is probably the best in this, or any other disease of a scrofulous character, like the Rickets.

If any considerable degree of deformity has taken place before the Treatment is commenced, it may not be remedied; yet, its further progress may be stayed; but, if it is commenced in time, it may reasonably be hoped that no deformity shall occur.

R. MISCELLANEOUS RECEIPTS. R.

RAISED BISCUIT—VERY SUPERIOR.—Milk, 1 pt.; 1 egg; butter 1 gill; sugar $\frac{1}{2}$ pt., or a little less; 2 good sized potatoes baked quite dry, scraped out from the skin and mashed; salt 1 tea-spoonful. Mix all, over night, with a penny's worth of yeast—a little less than $\frac{1}{2}$ pt.—and flour to give the right consistence. In the morning, mold by hand with as little additional flour as possible. This will make about 3 pans of Biscuit nice enough to pay for all of the trouble, otherwise you can call on me for the balance. If an entirely plain Biscuit is desired, leave out the sugar.

RATTLESNAKE BITES—SEVERAL REMEDIES.—1. Wisconsin Remedy.—Take the yolk of an egg and stir into it as much salt as will make a good salve; spread upon a cloth and apply to the wound; and we will insure your life for a sixpence.—*Wis. Farmer.*

2. Missouri Remedy.—E. J. C., of Centerville, Mo., in writing to the *Scientific American*, on that subject, says: "The best Remedy I ever tried for a Snake Bite was whisky and red pepper, a table-spoonful to $\frac{1}{2}$ pt. of the whisky, for a dose, to a grown negro man; 2 doses made him drunk, and cured him. This Remedy has often been tried with success, in this region."

I have known it to be tried in the region of Ann Arbor, Mich., for Massasauger bites, without the red pepper, and proved just as successful. At any rate, I should not advise the use of more than a tea-spoonful of the red pepper for a dose.

3. Michigan Remedy.—William Lyon, of Clinton County, Mich., was bitten on the 24th inst., by a Rattlesnake. An immediate application of saleratus prevented a fatal result.—*Lansing (Mich.) Daily Republican* (July 30, 1872).

This needs no further comment, in Mich., than to say that a little saleratus could be easily carried in the pocket when men are going out to work upon a marsh, where the Massasauger is known to inhabit, and thus save a life occasionally. The saleratus no doubt, neutralizes the poison, at once, and is therefore reliable.

4. Virginia Remedy.—The *Petersburgh* (Va.) *Express*, informs us "that a car-

penter, while pulling down an old house, was Bitten by a Rattlesnake, on the finger, which swelled to 4 times its usual size, directly. But that he was entirely cured so that he went to work again in 2 hours, by a poultice of onions, tobacco, and salt in equal proportions."

It certainly has the credit of cheapness, quickness of action, and of being almost always within easy reach.

5. Texas New Remedy.—A gentleman signing himself "Lacon," from Galveston, Texas, in writing to the *Scientific American* on the Remedies for Snake Bites, notwithstanding he believed, with the editor of that paper, that whisky, or other alcoholic stimulants was the best known Remedy, drank to intoxication, yet, he wished to give the treatment of a physician who lived for many years upon the Brazos River, where poisonous serpents, such as Moccasin-snakes, Rattlesnakes, Cotton-mouths, etc. abound, and the Bites of some of which are soon fatal. The New Remedy was pure *olive-oil*, a table-spoonful to be given every half hour until relieved, commencing as soon as possible after the infliction. This he says, "he has never known to fail."

1. RAT EXTERMINATION—WITHOUT POISON—Austrian Method.—In your paper No. 14, Sept. 30, 1871, query 21, T. C. H. wishes to know some means of expelling Rats from a building. Let him catch, by any ordinary trap, 3 Rats, put them in a cage constructed of wire, in any place which is plagued by this animal, and give them no food whatever. On the 3rd day he will find only 2 Rats, one being eaten up by the 2 others, and on the 6th day, only 1 rat in the cage. Let him give the survivor his liberty on the 7th day, and he will be, in the course of one week, rid of all the Rats except the 1 monster which ate up his 2 brothers, and which he may feed for sympathy's sake. This mode was adopted with great success in a building in the former Thiergarten at Vienna, where all other means to expel these animals were useless.—L. S., of Vienna, Austria.—*Scientific American*.

2. A Novel Rat Trap.—A gentleman of Brooklyn who had "an increasing family" of Rats, in spite of Arsenic and other Rat Exterminators, wrote to the *New York Sunday Times*, for relief, and received the following answer:

"Take a mackerel barrel, for instance, and fill it to about one-third its height with water. Then place a log endwise in the water, so that one end of it will just remain above the surface. Make the head of the barrel a little too small to fit, and sustain it by two pins to the inside of the top of the barrel, so that it will hang, as if on a pivot and easily tip by touching either side. On this head thus suspended, secure a piece of savory meat. The first Rat that scents it, will, to get the meat, leap on the barrel head. The head will tip, or tilt, precipitating him into the water, and resume its position. The Rat in the water will swim to the log, get on the end of it, and squeal vociferously. His cries will bring other Rats, all of whom will be tilted into the water, and all of whom will fight for the only dry spot in it—the end of the log. As only 1 Rat can hold it, the victor will drown all the rest, and can, in the morning be drowned himself. We have seen 20 Rats caught in 1 night by such a trick."

The *Sunday Times* is correct in theory; for it is nothing less nor more than the old French plan which is still followed in Paris by men who make that their business; and if the contrivance is ingeniously arranged, and the fried pork, or cheese bait is made sufficiently enticing, success will follow. See No. 3 for flavoring the bait.

3. Rat Catching Effectual.—Use the common wire, box-trap, with spring; but scent the bait with a drop of the oil of rhodium—the oil of rhodium is made from a Chinese rose, and is very peculiar and penetrating in its flavor. Why should it not be as good for baiting Rats as for baiting fish?

4. Old Plan of Driving Away.—An old work on "rat catching" gives what it claims to be a very successful method of driving them away. It says:

"I shall here give the reader another maxim I have often followed very successfully. Take common tar, 1 pt. vitriol (sulphuric acid,) $\frac{1}{2}$ oz.; common salt, a good handful.

"Mix well together in an old deep pan, soak some pieces of coarse paper in it, and place them in the holes, sufficient to stop them, and lay a brick over the hole; and if you should find any of the holes opened again, then put in some more; and if it is done as it ought to be, they will never approach there again while either taste, or smell remains in it."

Chlorine gas will fill the holes, from the acid and salt, while the tar vapor also, with its daubing their feet, will, undoubtedly, have the desired effect.

5. New York Method.—But few subjects, of a practical character, are generally complete without something from the *Scientific American*. The following item was published in that Journal, Sept. 14th. 1872. After speaking of other plans, it says: "We come to the New York plan. The floor near the Rat hole is covered with a thin layer of moist caustic potassa. When the Rats walk on this, it makes their feet sore; these they lick with their tongues, which make their mouths sore; and the result is that they shun this locality, not alone, but appear to tell all the Rats in the neighborhood about it, and eventually the house is entirely abandoned by them, notwithstanding the houses around may be teeming with Rats."

I think that with some one of the foregoing plans, there will be but little difficulty in clearing the premises of Rats without the danger attending the use of poisons.

RASPBERRY—BEST TIME FOR PRUNING.—There seems to be con-

siderable controversy as to the proper time for Pruning the black-cap Raspberry, some contending for Fall, and the others for Spring Pruning; but from what I can learn of those who cultivate them for a business, and from what I have experienced with those in the garden, I am satisfied that the Best Time is the Spring. Of course, as soon as they are done bearing, Prune out the old stock, and cut off all the canes you leave, of the new growth, to the height you desire; then leave what sprouts may come out near where they are cut off, to grow without further Pruning until Spring, at which time, Prune off to the desired length. If these sprouts, or limbs are cut off in the growing time of the Fall, they will send out so many small limbs, or branches as to spoil the whole; and if cut off late, they are likely to kill back more than they would if left until Spring.

RIBBONS TO RENEW.—Wash them in a cool suds that has been made with nice white soap, and iron while damp. If the Ribbon is to be stiffened, dip it into water that has a little gum Arabic dissolved in it; and in ironing it, after it has been dipped in the gum Arabic water, cover it with a clean cloth, otherwise the iron will stick to the Ribbon.

RICE WAFFLES.—Take 8 gills ($\frac{3}{4}$ pt.) of cold boiled Rice, warm it with 1 pt. of milk, mix it smooth; then take it from the fire, and stir in 1 pt. of cold milk and a tea-spoonful of salt. Beat 4 eggs, and stir in, with flour enough to make a stiff batter. Cook on a griddle, or in Waffle irons.

RUBBER BOOTS TO PATCH.—Take a piece of a wornout Boot, or Shoe for the Patch; then to break up the gloss of the Patch, and the Boot, as far as the Patch is to extend, rub it with sand-paper. Coat both with liquid Rubber 4, or 5 times, letting each coat dry before putting on the next; do the same again and apply the Patch to the Boot and apply pressure while the last coat is soft, and the work is complete. If liquid Rubber is not kept by the druggists, dissolve small bits of pure Rubber in spirits of turpentine to the consistence of thin molasses, by keeping it warm.

RULES OF RAILROAD TRAVEL AND RIGHTS OF PASSENGERS.—The following "Rules" are based upon legal decisions, and ought to be universally known. The courts have decided that applicants for tickets on Railroads can be ejected if they do not offer the exact amount of their fare. Conductors are not bound to make change. All Railroad tickets are good until used; conditions "Good for this day only," or otherwise limiting time of genuineness, are of no account. Passengers who loose their tickets can be ejected from the cars unless they purchase second ones. Passengers are bound to observe decorum in the cars, are obliged to comply with all reasonable demands to show their tickets. Standing on the platform, or otherwise violating the Rules of the company, renders a person liable to be put from the train. No Passenger has a right to monopolize more seats than he has paid for; and any article left on, or in the seat while the owner is temporarily absent, entitles him to his seat on his return.

SEDATIVES AND NARCOTICS.—Sedatives are medicines which to a certain extent at least, allay the irritation of the nervous system, and thereby control the action of the arteries, by calming and lessening the action of the heart; and consequently, are now, extensively used in inflammations and fevers to reduce the circulation, aiding thereby, the restoration of the secretions to a healthy standard. The word comes from the Lat. *sedare*, to allay, to calm; hence, Sedate, to be calm and dignified.

As might be supposed, they are powerful, and unless used with care, danger will arise from them; but with care, they are perfectly safe; and, in fact, we should think we could not get along without them in the treatment of fevers, or inflammations, which cause more or less fever; and as I have only recommended the use of two of our best Sedatives, in combination, under the name of FEBRIFUGE, which see, on page 392. I will only further remark here, that it should be labeled by the druggist, when obtained, and then it should be kept where no one will touch it who does not understand that if taken in large doses, either accidentally, or to try to reduce the pulse too quickly, fatal results may follow; but if used according to directions, they are perfectly safe and reliable.

Narcotics. or the really only true Narcotic—opium, or morphine, made from it—if used in too large quantities is equally as dangerous as the Sedatives. Narcotics allay pain, while Sedatives allay excited action and irritability of the nervous, and arterial systems; hence I speak of them in connection, although belonging to distinct classes. Opium, or morphine, however, I never use if I can possibly avoid it, as they so quickly establish an appetite, or craving necessity for their repetition; yet in the severest pain, there is no substitute for them; but their extensive use in the form of "Soothing Syrup" has been an outrage upon the incredulous and unwary, that has resulted in the untimely deaths of thousands of children, which might have otherwise lived as a blessing to those who have ignorantly been the means of their destruction; for, as before remarked, although there is but one really true Narcotic—opium—there are other agents which will induce sleep by removing the cause of pain. Then with small children, or in chronic disease, where it is probable that Narcotics would have to be used for a long time, it is far better to resort to diaphoretic, or sweating and stimulating articles com

bined, which will have a tendency to lessen pain by correcting, and removing the cause, as far as possible. In such cases:

Take tincts. of valerian, lobelia, ginger, sweet-flag, and anise, of each, 1 dr.; compound tinct. of lavender, 2 drs.; chloroform and sulphuric ether, of each, $\frac{1}{2}$ dr.; simple sirup, 4 ozs. Mix.—Dose.—For a child 1 to 3 years old, 10 to 30 drops—still younger, 8 to 8 drops—an adult 1 tea-spoonful to a table-spoonful, once in $\frac{1}{2}$ an hour to 2 hours, according to the severity of the pain, or nervousness of either child, or adult.

The Narcotics proper,—morphine and opium—are seldom used for children, at all; and if it is deemed best to use them with adults, a dose of morphine, in ordinary cases, is only $\frac{1}{8}$ of a gr.; while $\frac{1}{4}$ gr. would be the extent in severe cases—one-sixth of a gr. equalling 1 gr. of opium. The opium however, is given with adults in 1 gr. doses, and in the most severe and excruciating pains, even 2 to 3 grs.; but it must be remembered that such doses are “no child’s play,” nor may they be repeated soon, even in the most agonizing distress—not oftener than once in 8 hours, while in moderate doses of $\frac{1}{8}$ to 1 gr. it might be repeated in 2 to 4 hours, in cases where the pain demands it; and the morphine in $\frac{1}{8}$ to $\frac{1}{4}$ gr. doses must not be repeated oftener than 2 to 4 hours, and as before remarked, *never* given to children.

STIMULANTS.—Stimulants are a class of medicines which increase temporarily, the vital activity of the system, through their influence upon the nerves, the administration of which, it is desirable to time so that the digestion, or other function for which they are used shall be aided in receiving an *increased* strength from their use, otherwise, so far as their internal administration is concerned, they may as well not be given, as a greater degree of prostration follows, than preceded them; and especially will this hold good with all alcoholic Stimulants, as *tonic bitters*, etc., which are recommended in any disease. To aid digestion, from $\frac{1}{2}$ to an hour after the meal is a good time for them, as they then stimulate the stomach to pour out more gastric juice, causing a more perfect digestion. And as the alcoholic portions are absorbed into the blood, a general increased vital force is also gained from the larger amount of nourishment which the general system receives thereby. If this position is not the fact, alcoholic Stimulants are an injury instead of a benefit, even in disease—and my experience as perfectly satisfies me of their *benefit*, as above explained, as it does that they are only an *injury* to those in health, and that they should *never* be taken only as a medicine. I do not recommend them before meals, unless the appetite is entirely at fault; for as a general thing people are disposed to eat too much; then, as brandy, wine, porter, ale, beer, etc., will *increase* the appetite if taken before meals, they only involve the necessity of a larger quantity to be taken after meals to help digest it, which will soon disturb and destroy the health instead of improve it. Pure grape wines, with sufficient sugar to make them palatable, I find most valuable for dyspeptics, for it acts in place of water, which some can not take, and also “fills the bill” as a Stimulant. Fruit wines will only partially fill its place.

2. Capsicum as a Stimulant.—Capsicum, or as it is more generally called *Cayenne*, taking its name from a town of that name in South America, is probably the purest and most perfect Stimulant that we have. This article is so *valuable*, yet such a universal prejudice exists *against* its use, on account of its fiery taste, I feel desirous to quote from King’s *American Dispensatory*, under the head of its *properties and uses*, he says: “Capsicum is a pure, energetic, permanent, Stimulant, producing, in large doses, vomiting, purging, pain in the stomach and bowels, heat and inflammation of the stomach, giddiness, a species of intoxication, and an enfeebled condition of the nervous power.” (Remember this is only its injudicious use, in large doses which no one has any need to give.) He continues: “The infusion” (tea) “is much used in colds, catarrh, hoarseness, etc. In dyspepsia, it stimulates the nerves of the stomach, promotes the secretion of the digestive juices and assists peristaltic motion.” (This has reference to the claspings and compressing motions of the intestines which carries forward the refuse matter from the food not dissolved in the digestive process, expelling it from the system, for as a circle of the intestine contracts, the one below it relaxes, and so on through the entire length). “It forms an excellent addition to quinia” (*quinine*) “in intermittents, where there is a deficiency of gastric susceptibility.” (When the stomach does not readily take up, or appropriate medicines received into it). “It has been also used in spasmodic affections, passive hemorrhages, especially uterine, and when combined with the compound powder of ipecacuanha, will, in many instances, arrest hemorrhage after parturition” (child-birth) “promptly. It has been used successfully in Asiatic cholera. A preparation made by adding $\frac{1}{2}$ an oz. of Capsicum, and 2 drs. of salt” ($\frac{1}{4}$ oz.) “to $\frac{1}{2}$ pt. each, of vinegar and water, has been found an excellent anti-emetic, in all cases of vomiting or nausea. To be given in table-spoonful doses, as often as required. It has received the name of *anti-emetic drops*. Capsicum may be used wherever a *pure Stimulant* is indicated, in all cases of *diminished* vital action, and may be combined beneficially with other remedies in order to promote their action as *emetics, cathartics, diaphoretics, urines, etc.*

Dose of the powder, from 1 to 6 grs.; of the tinct. from $\frac{1}{4}$ to 1 ll. dr.

As I call it, our *Cayenne and Whisky*, which see, makes an excellent application or bathing medium in all cases of cold extremities, internal inflammations, to draw the blood to the surface, bathing once, or twice a day in extreme cases, brings a fine glow of warmth that I know of nothing else capable of doing. It is used of common strength, as a gargle in sore throats; and the *concentrated tinct.* 1 oz., of the powdered Cayenne to 3 ozs. of alcohol, it is used as a counter-irritant; and as a cure for chilblains and toothache. It is rubbed over the chilblain with a piece of sponge "until a strong tingling and electrical feeling is produced, daily until entirely well." Unless the skin is broken it never makes a sore by injuring the skin.

I have taken up so much space with the *great Stimulant—Cayenne*—I shall devote but little space to the others. I should not have given it the consideration I have however, if I had not known it to be worthy of all the attention I have bestowed upon it.

3. Hunn's Life Drops as a Valuable Internal Stimulant—Known also as Compound Tincture of Cajeput.—It is composed of oils of Cajeput, anise, and cloves, of each, $\frac{1}{4}$ oz.; alcohol, 4 ozs. Mix. Prof. Soudder says of this article:

"It is the most valuable Internal Stimulant in exhaustive discharges from the bowels with which I am acquainted, and one of the most efficient in all where a prompt diffusible Stimulant is necessary. It is almost a specific" (positive cure) "in cholera morbus; one of the best remedies in Asiatic cholera, and answers an admirable purpose in congestive chill and sun-stroke.

"Dose.—In cholera morbus and cholera we give it in tea-spoonful Doses, every few minutes, until re-action commences" (until they begin to revive), "when the Dose is lessened. It quiets the irritation of the stomach, and checks vomiting."

4. Mustard Plaster as an External Stimulant.—A Mustard Plaster applied Externally, as against internal inflammations and irritations probably, has no equal. It is made by wetting up ground Mustard to a salvy consistence with warm water, or cold, if not so cold as to make one shiver to whom it is to be applied, spreading it upon thin muslin, of double the size of the Plaster, then folding the dry side over and laying the wet side upon the patient, so as to get a quick action, removing it when the smarting cannot be borne longer; and repeat, if necessary as soon as the smarting subsides; or it may be changed the width of it, in very severe internal pain, nausea, or irritation. Use it full strength, and take it off the sooner, is better than corn-meal adulterations and longer applications.

5. Stimulating Liniment—Baleom's—Very Efficient.—Best alcohol, 1 pt.; oils of origanum and wormwood of each, 1 oz.; gum camphor and powdered Cayenne, of each, 1 oz.; aqua ammonia, 4 ozs. It may be mixed, corked, and shaken daily for a week; or what is better is to put one-fourth of the alcohol upon the Cayenne and shake it daily for a week or 10 days, to extract the strength of the pepper, then strain, or filter it and mix with the others. It must be kept corked, as ammonia is very evaporative.

This will be found a Very Efficient Stimulating Liniment, for external, or internal use, for man or beast. Mr. Baleom from whom I obtained it thinks there is no other equal to it—it is certainly a strong Liniment in all of the good things it contains, and it contains nothing except what is appropriate. Its application to any external part will stimulate it to action, and the Cayenne will cause a warm and healthy glow, that will be sensibly realized.

Dose.—It may be taken internally in Doses of from 10 to 30 drops, for an adult, according to the severity of the pain, and repeat as Hunn's Life Drops No. 3. above. Any other Liniment according to its strength, will also be found Stimulating, and applicable for external use, so also will the camphor spirits, or the Cayenne and whisky, referred to in other places in this work, all will be found Stimulating to the surface, and effectual for the purposes intended.

SCROFULA.—Almost every writer upon this disease begins by saying that the name is derived from *Scrofa*, a hog; and also teaches us that the eating of pork is likely to produce the disease, as the hog is peculiarly liable to a similar disease of the glands, but in 56 years of life, I have yet to see the first hog that manifests any external appearance similar to the Scrofulous glands of persons. The name comes, no doubt, from the Lat. *Scrofula*, the name applied to this disease, which comes however, from *Scrofa*, the literal meaning of which is a breeding sow; hence some suppose that the comparison more properly refers to the resemblance of the glandular swellings to pigs huddled together, or otherwise to the rapidity of their increase, which, probably, comes nearer to the facts in the case. And later investigations also go to prove that what is now called Scrofula, is not similar to any disease of the hog. And even Galen and Celsus—ancient medical writers—preferred the name *Struma*, from the Lat. *Struo*, to heap up, as more correctly descriptive of this disease. It has also been called *King's Evil*, because the kings of France and England were formerly believed to be able to cure it by simply putting their hand upon it. Queen Ann in 1702 T. Baltimore, was the last to proclaim this power, and she called upon her subjects to come to her for the purpose of healing. See note under the head of RICKETS. In my day, I have heard

people claim that the touch of the 7th successive son, was able to accomplish such cures—I have seen 7th sons, but no cures of Scrofula by their touch. With these introductory remarks I proceed to a description of the disease.

Scrofula is undoubtedly a constitutional taint of the system, manifested by a swelling, or enlargement of the glands, most frequently beginning in those of the neck, accompanied, sooner or later, with inflammation and a continual deposit of tubercular matter in these glands, much as such deposits are made in the lungs in tubercular consumption, and no doubt, of a very similar character.

Cause.—Whatever has a tendency to reduce, or change the blood from a perfectly healthy condition, will have a tendency also to debilitate the general system, and especially so in the glandular bodies where there is less activity, from their nature, than in the general system, except perhaps in the little glandular bodies of the lungs where the blood is oxygenated, and who shall be able to tell us that the very Cause of this disease may not be from a failure of the lungs to properly oxygenate the blood. Some writers have called consumption *pulmonary Scrofula*, which it undoubtedly is.

Symptoms.—Scrofula as a general thing, first manifests itself by the appearance of small, hard, but moveable kernels, just under the skin of the neck, without soreness, or even redness for a long time, perhaps 6 months or a year before they reach any considerable size, or manifest any soreness to justify the idea that any inflammation is present. They may become very large, and they sometimes appear also in other parts. They keep on enlarging however, until after a while they suppurate—form *pus*—the word coming from *sub*, under, and *puris*, pus, literally then—generate pus under the surface. And when this is known to be the case, it is best to lance them to prevent the destruction of the skin, which, if it comes to the surface of itself, destroys more of the surface than would occur if lanced, making a larger scar that generally heals with a puckered appearance, considerably disfiguring the parts.

The discharge is not usually a healthy white pus, but more of a watery, curd-like mixture. It is most common with children of from 2 to 10 years of age, it may however, occur later, but very seldom in adult age, except it be in a different form, as in consumption, liver affections, etc. The disease is confined to the glands, and generally to the glands of the neck. The ulcers heal slowly, and unless proper treatment is adopted others arise also and run the same course, perhaps for years, or until the system is exhausted, or by some turn, the *vis natura*, (strength of nature) asserts her rights and throws off the disease, which is not often the case, without:—

Treatment.—*First*, as "To Prevent Disease is better than to Cure," let such a course be adopted with all children, of avoiding all errors in diet, all locations and all habits that are not in accordance with Common-Sense, i. e. let all children have good food, and only in proper quantity, for instance, the mother's milk, if the mother is healthy, and if she is not, let a healthy wet-nurse be obtained whose child is about the same age of the one to be given to it; but if the child is obliged to be raised "by hand," let the milk from only one cow be used; and, for very young children, a little sweet cream, or a very little unsalted butter be added, to make it as near like woman's milk as possible, for woman's milk contains less cheese, but more sugar than cow's milk, this is to avoid constipation with the child. Older children should have good bread and milk, bread and butter, the butter not too free, but in moderation, with a little sugar to make it more palatable, and to supply a demand of the system for sweets—if the system did not demand, the appetite would not, generally, crave it. Ripe fruit may also be allowed, but not green, in any case, not even cooked, for it is not healthy for even grown people. And children, nor those of more adult age, of a Scrofulous tendency especially, should ever be allowed to gorge themselves with pastries, or sweet meats of any kind, for they are too much, even for those in health—health and such a diet will not long stay together. Country air, and plenty of play, or out-of-door exercise are also of the utmost importance.

Second: If the tumors have made their appearance, the DISCUTIENT OINTMENT, which see, should be applied to them, to drive them away, rubbing the ointment well into the tumors 2, or 3 times daily, and at the same time taking a cathartic, and a diuretic to carry off what may be thrown back upon the system by the discutient; the whole surface to be stimulated by the camphor, or Cayenne sponging, with frictions following, to the whole surface also; and in this way many cases will be prevented from ulceration. But:

Third: Supposing maturation, or ulceration to have commenced and progressed to such a degree as to prevent its dispersion, or driving away; then, says Dr. Beach, "I have found, by experience, the bayberry to be one of the most extraordinary remedies in Scrofula, particularly in a state of ulcer, of any other article, either in the animal, vegetable, or mineral kingdoms; and if there is a specific" (positive cure) "in this complaint, I think it is this very plant, or shrub. I have never yet known it to fail in a single instance, in all my practice, in the most advanced and worst stages of the complaint, and when they have been Treated, without benefit, by our most popular physicians and surgeons."

The manner of using the bayberry is to make a strong tea of it, and with a proper sized syringe, to inject, night and morning, alternately with a solution of the VEGETABLE CAUSTIC, which see—a tea-spoonful of that to soft water, $\frac{1}{2}$ pt. is the proper proportion to inject; and the sinuses, or orifices are to be kept open by the introduction of tents, made of twine, or strips of cloth, dipped into melted bees-wax, and introduced to

the depth of the ulcer. In this way they heal from the bottom. I say *they*, for there may be 2 or 3, or even $\frac{1}{2}$ doz. or more. Beach gives an account of 1 case where there were 15 openings at one time, and yet he cured it with this Treatment.

2. IODINE has also been considered a valuable remedy, almost, if not absolutely a specific—perfect, or positive cure. A favorite prescription with some has been, Iodine, 30 grs.; Iodide of potassium, 60 grs., in water, 4 tea-spoonsful—Dose 5 drops, in a little water 3 times a day, for a few days; then increasing 1 drop daily, for the Dose, until it reaches 15 drops.

3. IODIDE of potassium, 1 oz.; in connection with the compound fl. ex. of gentian, $\frac{1}{2}$ pt. Dose—a tea-spoonful for a child, as No. 2, has also been looked upon as very valuable. Or any of the ALTERATIVE SIRUPS, which see, may be used in place of the fl. ex. the Dose being the same; but I would not put the Iodide into more than 4 ozs. ($\frac{1}{4}$ pt.) at a time, as it is believed by some that the Iodide soon loses its alterative power by mixing it with sugar, or sirups containing sugar.

4. IODIDE of potassium ointment rubbed upon the tumors, night and morning, has been successfully used in many cases—Iodide, 1 oz. to lard, 4 ozs. well mixed.

5. SALT WATER bathing is claimed to be very desirable, in Scrofulous taints of the system. If I used them, it would only be once daily, and spirit bathing also daily—one in the morning, the other in the evening.

6. Prof. Scudder, discarding all of the older plans of Treating Scrofula, uses *rumex crispus* (yellow dock root) *alnus serrulata* (tag-alder bark, called also smooth alder, common alder) *Scrophularia nodosa* (figwort, for a description of which see, Mrs. Wolfe's OINTMENT FOR BURNS, etc.) *podophyllum* (mandrake root) and *oryzopsis* (squirrel corn, called also, wild turkey pea, staggerweed, etc.); and combines with them any other articles indicated, or known to possess alterative properties, that are easily obtained; and, in connection with these he prefers the ACETATE OF POTASH, which see, as a *diuretic alterative* in place of Iodine or Iodide of potassium, which are so generally used with this disease, claiming "it to be, as much more efficient than Iodide of potassium, as this is over epsom salts." He uses also the bitter tonics, iron, the hypophosphites, etc., which are kept by druggists.

Lastly: I would say that by occasionally changing from one of the above plans of Treatment, to one of the others (for no one thing will have the same good effect, very long continued, that it will if changed, or even dropped for a time), say every two months, using also the precautions to keep the bowels regular, the skin clean and actively healthy, and the kidneys also, not over stimulated, nor left too inactive; and the result will soon begin to show, and the ultimate end be generally satisfactory.

So much has been said of Mr. Longworth's Remedy for Scrofula, of Cincinnati, the great wine dealer of that place, that I hardly feel justified to leave this disease without giving it. He says:

"Take aqua fortis" (nitric acid), "1 oz.; put it on a plate, and lay in it 2 copper cents; it will effervesce strongly; when it ceases, put to it 2 ozs. of pure strong vinegar; or use 1 table-spoonful of aqua fortis, and 2 of vinegar. Leave in the cents. Apply it to the sores twice a day, with a soft brush, or rag. It should and will occasion pain; if it is too severe, a little pure rain water may be added."

N. LONGWORTH.

The following letter was addressed to Mr. Longworth, after he had given the Receipt to the public. It will explain itself, and, no doubt, satisfy many persons of the value of the Receipt. It was as follows:

NICHOLAS LONGWORTH.

Dear Sir.—With gratitude and pleasure, I avail myself of the present opportunity to acquaint you with the gratifying results from the use of your valuable prescription for the cure of Scrofula. In my case it has done wonders, for to all appearance it appeared to be a hopeless one, in as much as it originated from a sprain in the ankle, many years ago, when yet a boy, and growing worse from year to year, until I lost the use of my foot altogether, and my leg had dwindled away to half the thickness of the other, which compelled me to use a crutch and wooden leg. When I commenced with your prescription, I had 2 running sores on my ankle; in the course of twelve months, I healed up, and in two months more, the other. I am now enabled to use my foot in walking, with but slight assistance from a cane; wooden leg and crutch both discarded. I felt it my duty to inform you of this, prompted by deep felt gratitude to you for giving publicity to this remedy, and likewise for the sake of such as may be similarly afflicted.

Yours truly and gratefully,

E. T. PORTER.

I have had another object in view also, in laying this last item before the public; it is this—the necessity of perseverance in these Scrofulous, or any chronic disease; you will see by my italics, above, that it took Mr. Porter "twelve" months to cure the first sore, and fourteen months for a perfect cure of all; then, let no one give up discouraged because a few weeks, or a few months does not work a perfect cure, in a disease that may have been born in you, or has been years increasing in strength after having been originated by some accident over which you had no control; or even from some known neglect, or what may be worse, from some actual sin of your own—whatever may have been the cause. If it has been years adding strength to strength, do not expect that a few

days only shall eradicate any such taint from the system—it is not in the nature of our constitutions—correct Treatment, long continued, is our only hope.

SMALL-POX.—Small-Pox is a disease characterized by fever, generally acute, or inflammatory; but occasionally of a low, or typhoid character, attended with vomiting and pain, or soreness of the stomach, followed by an eruption—in fact, it is an “eruptive fever.” The disease is generally divided into two classes, called *distinct* and *confluent*; but if they had said that some persons do not have it bad, but some others do, it would have covered the same ground; the *first* are those who have it slightly, as we may say, the eruptions, or pustules, being only few in number, remaining *distinct*, i. e., separate and apart from each other—not touching each other; while the *second* are those who have it so badly that the pustules cover nearly the whole surface, and what they do not cover at first, the swelling continuing, they run together, as the meaning of *confluent* is, a flowing together—the whole surface becoming as it were, one entire scab. The difference may arise from the different conditions of the system in different persons, or from a greater virulence, or poison in the matter that communicates it, or it may be partly from both. But, it stands to reason, that if the whole surface is covered with a sore, the pain and suffering, and the consequent danger will be greater than it would be if only *half*, or *three-fourths* of the surface is covered. This leads me to the

Cause.—The disease is conveyed from one to another by what is known as *contagion*, coming in contact with persons who have it, or with clothing, which contains matter from those who have had it. Some writers have also supposed that Small-Pox was *infectious*, i. e., that it diffused itself in the air so as to be communicated in that way. Probably it may be given by the breath of those laboring under the disease, and it may so diffuse itself in the air of the room occupied by a Small-Pox patient; but there is no probability that, as some have supposed, it is so infectious as to communicate itself to the out-door air to such a degree that others would take the disease without entering the house.

Symptoms.—Small-Pox begins much like a fever, or an ague, with chilliness, alternating with flashes of heat, pain in the head, small of the back, perhaps sore throat, unwillingness to move about much, nausea, and sometimes vomiting as above remarked, when the fever takes on a typhoid character; there will be thirst, and perhaps stupor also. The time from the exposure to the time of coming down with the disease varies from 7 to 16 days, but generally, will be 11 to 12 days; but the general fever symptoms, such as a feeling of languor, or weariness, poor, or variable appetite, costiveness and scanty urine, dryness of the skin, etc., will be gradually increasing upon the patient for 4 days before the chill puts in its appearance. The chill may be slight, and it may be well marked, and the fever will usually correspond with the chill; and so, also, may be expected the severity of the disease; if the chill is severe, and the fever high, the more severe the disease through its whole course. About the 3d or 4th day from the chill, the eruption will appear on the face, neck, and breast, in succession, as in measles. And it may be distinguished from measles by the fact that the eruption begins as a hard, red point, gradually enlarging to quite a pimple, increasing for 4 or 5 days, by which time they will have extended more or less over the whole body. The pimples become vesicles, little blisters, which are bound down in the center, making the appearance of a dent, as the blister fills. It may be distinguished from scarlet fever by the fact that in that disease there is only a blush of the whole surface. From the 6th to the 8th day from the chill the blisters, or vesicles will have become pustules, i. e., a process of maturation will be set up, and pus, or matter will be formed, which loosens the center binding, or rather, the skin ulcerates and the filling of the ulcer bursts off from its center, making an orifice in the surface, from which the matter oozes out, and by about the 11th to the 16th day, the scabs, or the whole surface, if it is the *confluent* type, will become dry, and in 3 or 4 days from this time will begin to fall off, and disappear, in the same order of their appearance. Although the scabs may begin to scale off from the 14th to the 16th day, yet, they may not all disappear for several days, or even weeks. For the first 3 or 4 days the fever will be quite persistent, or steady, except it will be a little higher through the night than the day, after which, when the pustules are filled, the fever subsides, and until about the 11th day from the chill, or commencement of the fever, the 8th of the eruption, a secondary fever arises, probably from the absorption of matter from the pustules, into the blood, thus re-poisoning the system, with which the patient is more likely than at any other time to be carried off.

In mild cases there will be but little difficulty from the eruption upon the internal surfaces of the mouth, throat, bronchial tubes, etc., and only slight fever, as before remarked; but in bad cases, the fever will be high, the skin hot, dry, and harsh; and perhaps stupor and delirium, and the eruption upon the internal surface will cause difficulty in breathing and swallowing, by the accumulation of a tough and ropy mucus, materially obstructing the passages to the stomach and lungs causing death by suffocation; the air passages being full, the air does not reach the lungs, consequently the blood is

not purified but remains dark, giving the surface the same dark appearance, the difficulty also increasing by the re-absorption of the exuding matter that reaches the stomach.

Treatment.—In the approach of Small-Pox, unless one knows that he has been exposed to the disease, no one can positively distinguish it from the approach of an ordinary fever; but fortunately, the Treatment should be about the same; the only difference being in this, if it was known to be Small-Pox, there need be no particular effort to produce sweating with a hope to break up the fever before it becomes fully established; for although with proper Treatment the Small-Pox may be lightened, it cannot be stopped; it may undoubtedly be modified and rendered much more mild than it otherwise would be, and also materially shortened in the period of its duration.

In the first place, then, let the whole surface be sponged with warm weak lye water, at least twice daily; this may be made with ashes, saleratus, or sal-soda, as most convenient. If there is much nausea, from an apparent accumulation of morbid, or unhealthy matter in the stomach, a mild emetic should be given; and if constipation is present, a mild cathartic should follow the emetic; and the FEBRIFUGE, must also be given to lessen the fever, by keeping down the arterial excitement, as directed under that head, which see. A diuretic should also be given to correct any difficulty that may be present in the urinary secretions, and the ACETATE OF POTASH, which see, may be used in moderation for that purpose. The sponging must also be kept up, which will materially lessen the dry-harshness of the skin. The patient should be kept comfortably warm in bed, but not too warm. I would use nothing more stimulating to the surface than the alkaline sponges, nor should there be any internal remedies given that are calculated to drive out the eruption, as this would aggravate the disease by increasing the eruption. Opium may be used however, if there is extreme restlessness, or delirium present, see NARCOTICS, for the doses. If such a course is pursued from the beginning there will be but few confluent, or bad cases of Small-Pox developed; and especially will this be the case, if, after a known exposure, the person is immediately vaccinated, and adopts a mild and unstimulating course of diet, which should be done in all cases, no matter how many times you may have been vaccinated before.

The same course should still be pursued even after the eruption appears, except that the FEBRIFUGE, or SEDATIVES, which see, should be lessened in the doses; and instead of the weak lye, or saleratus water spongings, let Castile soap and warm watertake their place, using a soft sponge and being careful not to rub in sponging, but rather to keep the sponge full, and press it gently upon the surface until the pustules are complete, and the matter begins to ooze out after which sweet-oil, or sweet-oil and glycerine may be used to keep the surface soft. As drink will be craved, let a little slippery elm be put into water, and drank freely, alternating with sassafras water made in the same way by using the bark from the roots, lemonade, currant, or other jelly water, toast water, etc., not keeping the patient confined to any one thing which will soon become distasteful. And as the process of maturation is very exhaustive, the patient must be sustained by the most nourishing food which can be taken, as corn-meal gruel, barley water, ripe fruit, especially roasted apples and occasionally broths, if they agree with the stomach, the corn-meal gruel however, and roasted apples should be taken as freely as may be borne, as their tendency is to aid in keeping the bowels lax, which must be done, if need be with gentle LAXATIVES, which see, to aid in carrying off the virus which is thrown off by the internal surface, of a similar character to that of the external surface; for as at first remarked, this is a disease of the skin, and as the mucus membrane of the internal surface is only a reflexion, or inward folding of the skin somewhat modified, the disease is there, as well as externally—remember this, as well as the other instructions, and you will have but little to fear for the patient.

But, in those cases where the blood has been very much poisoned, known by the blueness, or lividity of the surface, and the mucus membrane of the mouth and throat, and considerable nervous prostration, the emetic will be repeated, and preparations made for a warm bath. This is now borne on, and supported by the best physicians in private practice, and in the hospitals.

THE *Dublin Journal of Medical Science* gives an account of its use by WM. STOKES, M. D., and by the Vienna Hospitals. It was given under the head of

Warm Bath in Small-Pox, as follows—Dr. Stokes says:

"We can not doubt that the mortality in Small-Pox hospitals would be greatly diminished by the use of the Bath." "He describes a case in which the pustulation was almost universally confluent; the purulent" (pus-like) "matter highly putrescent" (becoming putrid) "the hemorrhagic" (bleeding) "state developed; the body one universal ulcerous sore, and the blackness of the worst purpura" (purple, or livid spots from exuding blood in the skin) "developed; the odor of an intensely pungent and offensive character, which seemed to pass through the bystander like a sword. Stimulants alone, freely and constantly employed, seemed to preserve the patient alive. The pulse was rapid, weak, and intermitting; and for several days we despaired of his life. At this juncture I happened to describe the case to my colleague, Mr. Smyly, who suggested the trial of the Warm Bath, with the view of relieving the terrible suffering. A Bath in which he could recline was speedily procured; and, pillows being adjusted in it, we lifted the sufferer in, and placed him in the recumbent position. The effect was instantaneous and marvellous. The delirium ceased as if by magic; it was the delirium

of pain, and the patient exclaimed, 'Thank God! thank God; I am in heaven! I am in heaven! Why didn't you do this before?' The fever immediately and completely disappeared, so that, on entering the ward, no one could suppose that there was a case of Small-Pox in it. He was kept at least seven hours in the Bath, during which time brandy was freely administered, and omitted only when it showed symptoms of disagreeing with the brain. He was then removed to bed. The surface was clean, and in many places the sores looked healthy and white. The Bath was repeated next day, after which he fell, for the first time, into a tranquil slumber. From this time his recovery was progressive, delayed only by the formation of abscesses and great soreness of the feet. That this gentleman's life would have been sacrificed but for the timely use of the bath, few who have had any experience in prognosis" (the art of foretelling the termination of a disease by the symptoms—the word coming from Greek words which signify to foreknow) "can reasonably doubt. He was in the condition of a patient every portion of whose skin had been burnt and ulcerated. * * * This case and its singular result, in addition to the experience of Hebra, justifies the recommendation of the use of the Bath. No danger attends its employment; and, in asthenic cases," (cases characterized by debility) "stimulants can be freely used. In the Vienna Hospital patients have been kept continuously in the Warm Bath for one hundred hours, with good effect."—*Eclectic Medical Journal*.

To prevent pitting in ordinary cases, the face should not be exposed to the effects of heat, or light—the room being kept as dark as can be and allow the nurse to get about it—not forgetting the gentle but frequent use of the Castile soap and warm water, and the use of the sweet-oil and glycerin to keep the skin soft.

THE FOLLOWING remarks of Prof. Scudder, of Cincinnati, who has a large practice there, and his report of four cases, in answering the inquiries of a correspondent of the *Journal*, above quoted from, will go to corroborate the above teaching, showing its advantages if properly followed. But I will let him speak for himself. He says:

"With regard to the mortality, I may say that in a practice of 16 years, yielding a large number of cases, there has been but one death. And these cases, to use the language of a poet, have been 'from grave to gay, from lively to severe.' And as others of my professional acquaintance have not been so successful, I am inclined to think that I have had the better Treatment.

"There are 3 features in this disease that demand particular attention: 1. The disease is exhaustive; 2, there is impairment of the function of the skin; 3. there is the tendency to blood poisoning—sepsis" (from the re-absorption of the poison into the system). "If we neglect to provide against these, in severe cases we may have death result from any one of the three.

"We say therefore: That we must keep the stomach and intestinal canal in good condition for the reception of food, and for its digestion; and see that the patient has it frequently and in proper form. That under no circumstances must the eruption be determined to the skin so as to impair its function to the amount of five-sevenths. That in all cases the patient be protected against blood poisoning, and that the proper antiseptics" (acids, and salines as directed) "be continuously used.

"I recognize the fact that the same pathological laws govern this as other fevers, and that therapeutic means are quite as definite and certain. As is the frequency of pulse and increase of temperature, so is the severity of the disease—marked by arrested secretion, impaired digestion, derangement of the nervous system, blood-poisoning, and extent of eruption. As we follow the ordinary indications in the Treatment of a fever—bring down the pulse, lessen the temperature, establish secretion, and support the strength, the disease becomes mild, and the eruption discrete" (distinct, as before called).

"I propose, therefore, the use of the proper sedatives, the Bath, alkaline diuretics, and occasional laxatives, and the proper antiseptics, with good feeding, as a rational Treatment of Small-Pox. I claim that with this Treatment, the disease may not only be rendered much milder, but in some cases may be aborted," (may not be fully developed,) "as I have conclusively proven in my practice.

"The ordinary Treatment of this disease is radically wrong, and is in part the cause of its fatality. As is well known, it consists in the frequent and continuous use of purgative and stimulant means to determine the eruption to the skin. The one impairs the action of the intestinal canal, the other the function of the skin. Both are absolutely prohibited in my Treatment, under all circumstances. I may also say that the patient cannot bear the use of the large doses of veratrum named in the books, and a fatal result may be readily obtained with this.

Case 1.—M.—A member of the present class was attacked in the following way: Had suffered for three days with a sense of depression, aching in the back and limbs, and loss of appetite. Then a well marked chill, followed by high fever.

When I was called, found the pulse full and hard, 120 per minute, red dry and hot, face flushed, eyes bright, tongue pallid and coated from base to tip with very nasty white coat, throat much swollen, showing a bluish pallor, is very restless and cannot sleep, no appetite.

Ordered—Bicarbonate of soda to water to make a pleasant drink, and give him all he wishes. Tinct. veratrum, 10 drops; tinct. gelsemium, 20 drops; water, 4 oz.; a tea-spoonful every hour.

Found the next morning that he had taken the soda water by the pint, and that it had passed off freely by the bowels. The *pallor* of mucous membranes was replaced by deep redness, the pulse was 90; patient better in every respect. Continued the sedative, and ordered for the day, diluted muriatic acid as a drink. The third day from chill, the eruption commenced making its appearance; and the next day covered the body as thickly as I ever saw it in the severest *confluent* form of the disease.

On the fourth day, sulphurous acid was given as the antiseptic, the veratrum being continued. And this was the Treatment so long as any was needed. The eruption in the throat was as severe as ever I witnessed it, and the discharge from the mouth excessive. The eruption on the face did not fill, neither did it on many parts of the body. Medicine was suspended the 8th day.

CASE II.—*Confluent Small-Pox.*—L. S.—, confluent Small-Pox of severest type. Throat symptoms very marked, and secretion of mouth and throat abundant and offensive. The odor of Small-Pox is so strong that it permeates the entire house, and is almost unendurable in the room. It is now the 5th day from the chill; the patient has been in the hands of another physician, and doctors are changed because it is impossible for him to take medicine. Has had purgatives every day and various nasty potions. The one favorable feature is—the eruption is out, though the skin is dusky. Find it absolutely impossible for patient to take medicine or food; the stomach would not tolerate it, and the patient can not swallow it.

Treatment.—Have the stove taken out of the room, and a fire built in the open fire-place, one window being opened to give free ingress of air. The room thoroughly cleaned, the patient washed, and clothing of person and bed changed. Let the mouth and throat be washed with salt water sufficiently often to free it from the secretions, and give small portions of a weak salt water as a drink. Burn a small portion of sulphur by the bedside every three hours. Wash the patient thoroughly with soap and water every day.

On the 2d day the patient was able to take food, and from the 3d day on, he took corn-meal, gruel and milk freely. The unpleasant odor had nearly disappeared the 3d day, and the septic (blood poisoning) "symptoms rapidly abated. The patient made a good convalescence in the usual time, no medicine having been given.

CASE III.—*Confluent Small-Pox.*—N—, et. 5, never vaccinated, has had severe fever 4 days, with pain, fullness of skin, throat symptoms, and peculiar odor that indicates Small-Pox. The skin is flushed and dusky, the patient is comatose (a deep, or lethargic sleep from which it is difficult to arouse one).

Prescribed—Tinct. of aconite, 5 drops; tinct. of belladonna, 10 drops; water, 4 ozs.; a tea-spoonful every hour.

In 12 hours the nervous system was freed, the patient conscious, and the eruption coming out nicely. Sulphite of soda, the antiseptic indicated, was prescribed in addition, and with cleanliness, the use of the Bath, and fluid food, the patient convalesced at the usual time.

CASE IV.—*Confluent Small-Pox.*—C—, is now in the 7th day of the disease, eruption out and filling. Pulse is small and hard, 120 beats per minute, temperature 106°. Skin dusky, eruption dark colored, mouth dry, tongue almost black, sordes on teeth, has been delirious since the 3d day.

Prescribed—Dilute muriatic acid, $\frac{1}{2}$ oz.; simple syrup, $\frac{1}{2}$ oz.; a tea-spoonful every 2 hours in his drink. Tinct. of aconite, 20 drops; tinct. lobelia, 20 drops; water, 4 ozs.; a tea-spoonful every hour. Fluid food with a small portion of brandy every 3 hours, and quinine inunction to the abdomen.

Lived through it, and made a good convalescence.

These cases will indicate my method of Treatment, which is based on the general principles so often referred to in this Journal.

This second case shows what surface washing, and cleanliness will do, even when in an apparently hopeless condition—either the warm washing, sponging, or the Warm Bath should always be used, according to the demand of the case, experience has abundantly proved this plan to be correct.

2. A Doctor M. F. Dumas, M. D. of McNutt, Miss. reports through the *Eclectic Medical Journal*, the Treatment of 138 cases of Small-Pox in one year, without the loss of a case, among whom were three Allopathic physicians and their families. His principal remedies were:

Norwood's tinct. of veratrum, and Sterne's fl. ex. of aconite root (both kept by druggists) in small doses, largely diluted with water, repeated often, and continued through the disease, (a full dose for an adult of the tinct. of veratrum would be 8 drops repeated every 3 hours—the tinct. of aconite root might take the place of the fl. ex. and the full dose of the tinct. would be 3 drops once in 3 hours—then what might be called a "small dose" of the two might be, say, 30 drops of each tinct. to 4 ozs. of water, and give 1 tea-spoonful of this in a good swallow of sweetened water, every hour).

He also gave $\frac{1}{4}$ to $\frac{1}{2}$ gr. of macrotin each day, and also sulphate of magnesia to open the bowels when costive; counteracting diarrhea, which occurred in a few cases, with appropriate remedies. He also used, as a tonic, sulphas hydrastia and quinine—they may be used in equal parts, in doses of the mixture say 5 grs. 3 times daily—the *hydrastia* is made from the golden seal. And previous to the eruption he used cool

water and soap externally; and during the eruption warm water with Labarraque's Liquor of the Chlorinated Soda, (it is a disinfecting fluid) 1 fl. oz. to moderately warm water 2 qts. Washing morning and evening with this, then anointing with olive-oil, which he says "acted like a charm." Diet of milk and bread. Of the 138 cases, 40 were of the *confuent*, and 15 of these 40 were malignant; 60 *distinct*; and 38 varioloid. Some of his patients "suffered severely, with sore throat, so much so that they could scarcely swallow or breathe, one of which suffered with convulsions also;" and while he was bathing the throat and spine with a liniment; given below, she accidentally got to inhaling the liniment, which relieved her in 5 minutes, and speedily subsided by its continued use; and he afterwards used it in other cases of severe throat symptoms with the same results. I shall call it

Dr. Dumas' Liniment for Inhalation in Small-Pox, or other Sore Throats.—Oils of sassafras, origanum, juniper, and hemlock, of each, 1 oz.; strong spirits of ammonia and chloroform, of each, 4 ozs.; spirits of niter, 1 pt. Mix and shake well when using. He applied it externally to the Throat as well as to inhale it; but he attributed its success chiefly to the inhalation of the chloroform and ammonia of the mixture. I have no doubt of the benefit of the mixture as a whole, both for inhalation, and for external application also, in any Sore Throat, or for general stimulating purposes, for man, or beast. It can not but be valuable, for there is no inert, or useless article in it. All except 3 of his patients escaped the secondary fever, and they had it only slight, and only 2 out of the whole were severely pitted, although he did not exclude the light, nor did serious disease of the eyes occur, as they sometimes do, nor had any one dropsical swellings; and although a few had inflammation of the lungs, as complications, his only additional Treatment for that was warm wet cloths constantly kept upon the chest. He vaccinated several cases, even after the Small-Pox made its appearance, which modified and benefit the cases.

In cases which he knew of, after exposure, he prohibited the use of meats and salt, and advised milk and bread diet, and a tea made of red sassafras root, taken cold for a constant drink—washing the surface every day, and keeping the bowels in a soluble condition with sulphate of magnesia, and gave a small dose of macrotin (macrotin is made from the *macrotys*, or black cohosh—small dose would be $\frac{1}{4}$ to $\frac{1}{2}$ gr.) once a day. He closes his communication in the following words, with which I fully agree:

"Now I claim that the disease in all of these cases was modified and rendered mild, and the duration of the disease shortened, secondary fever prevented, also, pitting prevented, by the Treatment instituted. The veratrum, aconite and blennions" (washing) "lessened the intensity of the fever, thereby preventing an increase of the generation of virus. I further am of the opinion that the macrotys has a special affinity toward neutralizing the virus. The tonics," (hydrastis and quinine), "assisting the digestive apparatus, and aided by the sedatives in bracing up the nervous system, caused the peculiar appearance of the eruption, and thereby prevented pitting and secondary fever."

3. Small-Pox—California Remedy.—Notwithstanding I have already given what I know to be perfectly reliable Treatment for Small-Pox; yet as there are those who believe there is, and possibly there may be benefit derived from some other plans, I will give a few other items; and the first one is from a correspondent of the *Stockton (Cal.) Herald*, who speaks as follows concerning the Small-Pox and its Remedy:

"I herewith append a Receipt which has been used in *hundreds* of cases. It will prevent, or even cure the Small-Pox, though pittings are filling. When Jenner discovered "Cow-Pox," in England, the world of science hurled an avalanche of fame upon his head: but when the most scientific school of medicine in the world—that of Paris—publishes this Receipt, as a panacea" (a cure-all) "for Small-Pox, it passed unheeded. But it is as unailing as fate, and conquers in every instance. It is harmless when taken by a well person. It will also cure scarlet fever. Here is the Receipt as I have used it, and cured my children of scarlet fever; here it is as I have used it to cure the Small-Pox. When learned physicians said the patient must die, it has cured:

"Sulphate of Zinc, 1 gr.; fox-glove" (*digitalis*), "1 gr.; sugar, $\frac{1}{2}$ tea-spoonful; water, as given below.

"Mix the sugar and powders with 2 tea-spoonsful of water; when thoroughly mixed, add 4 ozs. of water.

"Dose.—A tea-spoonful every hour. Either disease will disappear in 12 hours. For a child, smaller Doses, according to age. If counties would compel physicians to use this, there would be no need of *self-accusations*. If you value advice and experience, use this for that terrible disease." *Dan. (Dr. Croft) Post.*

Notwithstanding the *de* here, seems to be rather Homeopathic, and the assertion "either disease"—Small-Pox, or scarlet fever—"will disappear in 12 hours," is certainly *unreasonably absurd*, yet it is possible, nay, I think it rather *probable* that it may do good, especially if given 3, or 4 times a day, every day from the time of a known exposure.

4. To Prevent Pitting.—S. H. Potter, M. D., an Eclectic of Hamilton, O. who has had many years of experience where there has been much of this disease, to Prevent Pitting and disfiguring the face, recommends the following

Ointment.—Lard, 3 ozs.; glycerine, 2 ozs.; finely pulverized charcoal, 1 oz. Make into an Ointment, and carefully anoint the face, and all parts uncovered, first having sponged the parts clean. The object of the charcoal is as an antiseptic (opposed to putr

fication), and also to prevent the action of light on the parts. "This," he says, "will dissolve all incrustations, allow the matter to escape, will neutralize the irritating virus and promote healthy granulations, not allowing the true skin to ulcerate, and leave no resulting Pits. Great care is required to not allow any crusts to remain around the mouth, or nostrils where the breathing causes them to form more readily and adhere more firmly."

5. Clay-Dressings in Small-Pox.—Dr. E. S. Bunker, of Brooklyn, N. Y. writes to the *Medical Record*, that during the prevalence of the disease there, he used Clay-Dressings in 2 cases of decided *confluent* (the pustules covering the surface and running together) with decided success, "there being no disfigurement in either case"—both young women.

In each case, he dusted finely-sifted Pipe-Clay over the face as soon as the pustules became fairly developed, "which formed immediately, a clean, dry, wholesome scab; abolished the intolerable itching and burning; served apparently as a good absorbent of infectious material; and scaled off during convalescence, leaving underneath a soft, natural integument."

In closing the subject of Small-Pox, I have only to add, with all this array of testimony from those who have had extensive experience with the disease, and with the various Receipts from outside sources to *modify* its severity, prevent *putting*, etc., if the same *fatality* and the same *deformity* of features still occur, it will generally be from the neglect of those who have the patient in charge.

SUDORIFIC, OR SWEATING TINCTURE.—Virginia snake-root, ipecacuanha, pleurisy-root (*asclepias tuberosa*), each in fine powder, saffron and camphor gum, of each of the above articles, 1 oz.; yellow ladies'-slipper (*cyripedium pubescens*—known also as yellow-moccasin flower, nerve-root, American valerian, etc.), of the root coarsely bruised, 4 ozs., alcohol, 1 qt.; water, 1 pt. Bottle and let stand 10 days to 2 weeks, shaking occasionally, when it may be filtered, strained, or left upon the drugs, if for family use. The ladies' slipper is used in place of an ounce of opium which was formerly used in this connection, as the action of opium can not be borne by some persons.

Dose.—One tea-spoonful in any of the warm teas used for Sweating purposes, repeating once an hour will keep up a perspiration in ordinary cases. But in pleurisy, or any other acute inflammation it might be given oftener, or in larger Doses. It may be used, and will be found valuable in all cases calling for diaphoretics, or Sweating medicines. Soaking the feet in hot water in connection with the use of any Sweating medicine, when the ALCOHOL LAMP, represented below, is not at hand.

3. Another Original—Beaches.—Virginia snake-root and ipecac, each in fine powder, saffron, camphor, and opium, each in moderately coarse powder, 2 ozs.; Holland gin, or Jamaica spirits, 3 qts. Let stand 2 weeks and filter.

Dose.—One tea-spoonful, given in a tumblerful of catnip tea, every hour, or two till it produces perspiration."—*Beaches Family Practice*.

Dr. Beach, with whom this Receipt originated, still further remarks concerning it: "This medicine is probably, unsurpassed in fulfilling the indications for which it is given, which is generally to produce free perspiration. One, or two doses, aided by warm infusions, and bathing the feet, cause a copious perspiration. Hence it is useful in a variety of diseases: in fever, inflammations, etc., I know of no medicine so certain in its operation." A tea-spoonful of this exceeds, a very little, 1 gr. of opium, and 1 gr. of camphor.

This was for many years the principal article used for this purpose: but some physicians have been opposed to the use of opium, and hence have substituted the ladies' slipper in its place, as above, for there are many persons who can not take opium at all.

SWEATING—Alcohol Lamp for Sweating Purposes.—Formerly, it has been customary to get up perspiration by putting alcohol into a saucer, and setting it on fire, the saucer to be placed under a wood-bottomed chair, and the person to be Sweated, sitting in the chair, covered with blankets. But, the surface of the blaze was so large, it made the heat too great upon the parts near the blaze to be borne with any kind of comfort; while some have also claimed it to have been dangerous; but all these difficulties have been remedied by the invention of a Lamp, made of tin, represented in Fig. 39, cup-shaped, with a cover, having 4 tubes about the size of a common wooden pencil, for wicks, made by using a screw-cap, such as tinners keep for kerosene-oil cans, which any one of them will make for a few shillings. There should be little tin caps to cover the wicks when not in use, to prevent evaporation. There are only

3 wicks shown in the cut, but there should be 4 in making. The heat from one of these 4-burner Lamps is sufficient, and it is perfectly safe, and does not burn the legs nor other parts, as the old saucer plan did. See DR. JOHNSON'S CURE FOR COLDS AND RECENT CATARRHS.

FIG. 39.



SWEATING PROCESS.

Process, but I seldom allow a patient to leave the chair in less than half an hour, no matter how profuse they may sweat.

S MISCELLANEOUS RECEIPTS. S.

SALT-RHEUM OINTMENT.—Sour wine, 1 pt.; twist-tobacco, 1 plug; pulverized gun powder, 1 table-spoonful; rosin the size of a hickory-nut; lard, 1 tea-cupful. Break up the tobacco and steep it in the wine; then strain and add the other articles in a suitable dish to simmer to an Ointment.

While this Ointment is being used upon any skin eruption, sulphur and cream of tartar, or salts, or some other gentle cathartic should be taken internally to carry off what may be thrown in upon the blood. In cases of *nursing* children being troubled with Salt-Rheum, the Ointment will be applied to them, but the mother, or nurse may take the cathartic. This Ointment will be found valuable in any eruption of the skin.

Prof. King, in his very large and valuable work on "Chronic Diseases," in speaking of these irritable conditions of the skin says:

"The treatment must be chiefly directed to the diseased conditions associated with, or giving rise to the *erythema*" (disease of the skin). "Keeping the bowels regular by laxatives; the kidneys by saline diuretics" (diuretic salts, as acetate of potash, cream of tartar, etc., which help to carry out the urea, or other solid elements, or material found in this class of disease, while the vegetable diuretics more especially increase the flow of water only); "the skin, by slightly stimulating alkaline baths. Tonics, as quinia" (quinine), "hydrastin" (made from the golden seal—a tea from the golden seal will do), "etc., if there is much debility; iron if there is anemia" (paleness and weakness, from absence of iron in the blood), "or 'Elixir of Cinchona,' (Peruvian bark) "and iron." This "Elixir" is an article kept by druggists.

The name Cinchona has been applied to Peruvian bark from the wife of Count Cinchon, who, while viceroy of Peru, was cured by it of an intermittent fever, and she, on her return to Spain, gave general aid in spreading a knowledge of the remedy, which is a *specific* (positive in its action) in all periodic "intermittent" fevers. See CHOLAGOUE.

SALVES.—Salves, if properly made, will be of such consistence as to keep their position, when applied, notwithstanding the warmth of the body. Rosin, bees-wax, and mutton tallow are generally used as the means of holding such remedial agents as we

Families living any distance from town should buy at least 1 qt. of Alcohol at a time, and keep it in the house for this purpose, and also for camphor, as it is always handy to fill the camphor bottle from, for ordinary use, 1 oz. to 1 pt.; but for strong, putting in 1 oz. of gum for each $\frac{1}{2}$ pt. of Alcohol. The blankets are represented as thrown back in order to show the Alcohol-Lamp—wash-bowl of hot water for the hands, and a bucketful of the same for the feet. When all is adjusted the blankets are to be closed around the patient, to retain the heat. A dipper of hot water may be added to the bucket, or changed in the bowl, as they become cool, to speed the Sweating

know to possess strengthening, or healing properties which it is desired to apply to the surface. If in any case they are found too soft, increasing the amount of rosin will give the desired strength of adhesion so as to hold them in place. For burns, or other open sores they should be more like *ointments* than Salves.

1. Salve for Cuts, Bruises, Boils, Etc.—Rosin, 1 lb.; mutton tallow, 1 oz., bees-wax and Burgundy-pitch, of each, $\frac{1}{2}$ oz.; balsam of fir and Venice turpentine, of each, $\frac{1}{4}$ oz.; oils of spike, hemlock, cedar, origanum, wormwood, laudanum, and pulverized camphor gum, of each, 1 dr.

The oils, balsam, laudanum and turpentine can all be put into 1 phial, in purchasing. Melt the rosin, tallow, bees-wax and pitch together. When a little cool, add the oils, laudanum, etc., stir in the pulverized camphor, and pour into cold water; then, by greasing the hands, it can be pulled and worked, as shoe-maker's wax until it is all intimately mixed; when it can be rolled into suitable sized sticks for use, or for sale.

For Cuts, Bruises, Boils, and all general purposes this Salve has no superior. It will remain upon the spot where it is placed, not shifting by the motion, or heat of the body.

2. Salve for Strengthening and Stimulating Purposes.—In weak back, pains in the back, or other parts, liver affections, etc., where it is desirable to apply a Strengthening Salve, or "plaster," as usually called, make the same as No. 1, adding very finely pulverized verdigris, 1 dr., at the same time the camphor gum and oils are being added. The verdigris is stimulating, as well as detergent *i. e.*, has a tendency to scatter, or drive away disease from the parts.

Healing Salve.—Take a good sized handful of comfrey root, wash and bruise it, and stew it in about 1 pt. of unsalted lard until crisped; then strain, and add pulverized gun powder, 2 table-spoonful, and spirits of turpentine, 1 table-spoonful, stirring as it cools to keep evenly mixed.

This makes a very valuable Healing Salve; the comfrey root of itself even, freshly dug and bruised, makes "an excellent application to bruises, fresh wounds, sore breasts, ulcers, white swellings, etc." The comfrey root may be successfully combined with other articles in cough sirups, and all affections of the lungs, or throat, also in inflammations of the stomach or intestines, in fact, in any portion of the internal mucus membrane, as it is a mucilaginous article, and helps to coat them and thus protect from irritation.

Bell's Salve, or Ointment for Itch and other Skin Diseases.—Lard, $\frac{1}{4}$ lb.; spirits of turpentine, red precipitate, and rosin, of each, $\frac{1}{2}$ oz.; pulverized corrosive sublimate, 2 grs. Melt and mix.

This prescription was successfully used for many years, by a gentleman whose name it bears, in all eruptive Diseases, as Itch, salt-rheum, etc., as preferable to all others. There are but few persons who have not sometime in their lives been familiar with the "precipitate Ointment" in Itch—Grandfather Bell preferred the above combination to the old mixture, and I agree with him in its superiority over the old Ointment.

SCALDS AND BURNS—Lotions to Relieve Pain and Aid in Healing.—Carbolic acid crystals, 1 dr.; oil of pennyroyal and spirits of turpentine, of each, 2 ozs.; water, $\frac{3}{4}$ pt.

After mixing the above, a cloth saturated in the Lotion should be placed over the Burnt surface, and kept constantly wet, without removal. It is also advisable to place over this, some carded wool, or cotton batting, to exclude the air more effectually. The carbolic acid gives immediate Relief in Scalds and Burns.

2. Carbolic Acid, 1 part, and sweet-oil, 6, or 7 parts, applied with lint and covered with oil-silk, or tin-foil has been found useful in some Scalds and Burns.

SCALE IN STEAM BOILERS—To Remove, and to Prevent Formation.—Water is rendered hard by the presence of earthy salts, such as carbonate of lime and magnesia, and these are kept in solution by the aid of the free carbonic acid gas which the water contains. By boiling, the gas is expelled and the salts precipitated, when they appear as a crust on the bottom and sides of the vessel, as may be seen in any old tea-kettle where hard water has been habitually used.

"Dr. J. G. Rogers, in an important paper read at the recent meeting of the American Association for the Advancement of Science, after enumerating the various substances which, in Boiler waters, contribute toward the formation of this crust, or Scale, gives us some valuable practical information concerning the effect of the crusts upon the Boilers, and how their formation may be prevented. Both dissolved and suspended matters are thrown down by boiling and evaporation, and slowly accumulate as a white, rough, porcelain-like layer, which may attain an unlimited thickness. The evil effects of this formation are due to the fact that it is a poor conductor of heat. Its conducting power, compared with that of iron, is as one to 37 $\frac{1}{2}$. This known, it is readily appreciated that more fuel is required to heat water through Scale and iron than through iron alone. It has been demonstrated that a Scale 1-16 of an inch thick requires the extra expenditure of 15 per cent more fuel. As the Scale thickens the ratio increases; thus when it is $\frac{1}{4}$ inch thick, 60 per cent more fuel is required; at $\frac{1}{2}$ inch, 150 per cent, and so on. To raise Steam to a working pressure of 90 lbs., the water must be heated to 320 deg. Fah. This may be done through a $\frac{1}{4}$ shell by heating the external surface to about 325 deg. Fah. If a $\frac{1}{2}$ inch Scale intervenes, the Boiler must be heated to 700 deg. Fah., almost a low red heat. The higher the temperature at which

iron is kept, the more rapidly it oxidizes; and at any temperature above 600 deg. it soon becomes granular and brittle from carbonization or conversion into the state of cast iron. Weakness of Boiler thus produced predisposes to sudden explosions, and makes expensive repairs necessary. To prevent the formation of Scale, the author recommends the use of *tannate of soda*. This is put into the Boiler at regular intervals in amounts proportioned to the hardness of the water. It quickly dissolves, and, without foaming or injury to the Boiler, effectively accomplishes the desired result. In the reaction which takes place, the tannic acid leaves the soda and combines with the lime of the carbonates to form tannate of lime. This is precipitated as a light, flocculent, amorphous substance, (flaky mass, with no definite form) "which does not subside, but eventually finds its way to the mud-receiver, in the comparatively still water of which it is deposited as a mushy sediment that may be readily blown off as often as required. The sulphate of lime is decomposed by the carbonate of soda of the first reaction, soluble sulphate of soda and carbonate of lime being formed. The latter is converted into tannate of lime by fresh portions of the tannate of soda. The presence of the alkali prevents all action of the acid on the iron. Extensive trial of this method has demonstrated its utility in all kinds of Boilers, and its efficacy, safety, economy, ease of application, and adaptability, will commend it for general use."—*Galaxy*.

2. Sal-Soda, technically called carbonate of soda, has been found *effective*, and also the *cheapest* article to use both for Preventing the Formation, and also to dissolve and Remove it. This I have tested; as the Ann Arbor Printing and Publishing Company, which is to publish this Book, and of which I now have the Superintendency, purchased a 15-horse-power Boiler which had been used about a year, upon which quite a Scale was already Formed; but our engineer—Mr. Bolles—told us he could Remove it with Sal-Soda, which we instructed him to do; and he has accomplished it by introducing only 2 lbs. of the Soda at a time, about 3 weeks apart for only 3 or 4 times, putting in twice before blowing off. What did not blow out was Removed by scraping out at the bottom, each time of blowing off. In a Boiler of this size, the water only being of medium hardness, 1 to 2 lbs. at the filling, would undoubtedly be sufficient to Prevent its Formation; but if *very* hard water, proportionally more, while for Removing the Scale already deposited the 2 lbs. is not too much. The suspension of oak blocks, 4 to 6 lbs. a month, for each horse-power in the Boiler has been patented for this purpose, and the introduction of Mahogany saw-dust, 18 qts. to a 10-horse power Boiler, every 3 months, and various other articles have been recommended, and many also patented; but when we have found a cheap, and easily obtained article that answers every purpose, we may well be satisfied.

In case of very hard water, and large Boilers, I certainly recommend the use of the "deposit-heaters" which have been proved to take out very much of the lime. With these and the occasional use of the Sal-Soda, there will be no danger. That my recommendation, however, of the Sal-Soda, may not seem to stand entirely alone, I will give the statement of a gentleman of Mo., to the *Scientific American*, as follows. He says:

"I have used Sal Soda for several years, and find it works *charmingly*. My Boiler was second-hand when our firm bought it, and the Scale was more than $\frac{1}{2}$ of an inch thick. By the use of 10 lbs. of Soda a week, I have succeeded in getting it as clean as if it had not been used a day. The Boiler is as clean of Scale as if new. My Boiler is 26 feet long by 40 inches diameter.

3. **Scale, or Boiler Incrustation—To Prevent—From Twenty Years Experience.**—The writer says: "Clean out every 6 weeks, and put in *one peck of rye*, has enabled me, for 20 years, to have perfect success, although I have used hard water."

I have not, now, a recollection of who this writer was, nor from what paper it was taken; but I deem it not amiss to give it; for it will give a chance for any who desire to do so, to make an experiment, which may prove successful—the size of the Boiler not being given, my judgment would be that the *peck* would be sufficient for a 15 or 20-horse-power Boiler, only.

SHINGLES—to Make Fire-Proof.—Mr. John Mears informs the readers of the *Boston Cultivator*, that he has prepared Shingles in the following manner, and after eleven years, and using *seven* forges in his blacksmith shop, he has never seen a Shingle on fire, nor a nail started. His plan is to have "a large trough, and put into it, 1 bu. of stone lime, $\frac{1}{2}$ bu. of refuse salt and 5 or 6 lbs. of potash, adding water to slack the lime and dissolve the alkali and salt—well knowing that pieces of an old *lime-pit*, a soap-barrel, or pork-tub, were not the best kindling stuff, and having long since learned, while at the Vineyard Sound, that white-wash made with hot salt-water, would endure *longer* than that made with fresh water, absorbing moisture, striking into the wood better, and not peeling and washing off. I set the bundles of Shingles *nearly to the bands*, in the wash for 2 hours; then turned them end for end, for the same time. When laid on the roof and walls, they were brushed over *twice* with the liquid, and were brushed over at intervals of 2, or 3 years after."

There is no doubt of the success of this plan, for all ordinary purposes against sparks etc.; but if an adjoining house was to burn, causing great heat and a very large amount of fire to drop upon the Shingles. It might need watching, and care to prevent burning.

SILVER WARE, JEWELRY, ETC., TO CLEAN.—Aqua ammonia, 1 dr. (a tea-spoonful); soft water, 4 ozs. ($\frac{1}{4}$ pt.). Bottle and keep corked.

To Clean Silver Ware, wet a piece of soft flannel, or cotton flannel and carefully rub the Ware with it, and wipe dry with your chamols, as usual. For Cleaning Jewelry, chains, etc., that are uneven in surface, put them in a tumbler of the liquid, and with a soft tooth-brush, go over them to remove dirt, tarnish, etc., from the crevices, carefully drying with the chamols, and by heat, if necessary.

With the addition of a little whiting to this, to be shaken when used, it has been peddled over the country as an exceedingly valuable compound—the whiting may be put in, or use it in powder with the chamols, for polishing.

SIRUPS.—1. Simple Sirup.—The foundation of all Sirups is what is known by druggists as Simple Sirup, made as follows:

Refined, or loaf sugar, 4 lbs.; soft water, 1 qt.; keep the proportions for any amount desired. Dissolve by heat, just bringing to a boil.

2. Sirups for the Sick.—This Simple Sirup, should be kept in every household as a convenient vehicle, or means of giving medicine, especially to children, and as a ready means of preparing a beverage for the Sick. A table-spoonful, or two of this with any of the fl. exs. of fruit, as lemon, orange, raspberry, strawberry, etc., to suit the taste, put into a tumbler and fill with cold water, gives the Sick a "cooling drink" in a moments time.

3. Soda Sirups—Fruit and Berry Flavors.—To make any Flavored Sirup for Soda-drinks, take the SIMPLE SIRUP above, and dissolve tartaric acid in it, at the rate of 1 oz. to each pt. of Sirup and put into bottles and add a sufficient amount of fl. ex. of such Fruit, or Berries as you desire, and also add about a table-spoonful of gum Arable water to each bottle to hold the gas. Pour of these Sirups, any Flavor desired, into a tumbler, and fill half, or two-thirds full with ice-cold water, and stir in $\frac{1}{2}$ tea-spoonful of bi-carbonate of Soda, or sufficient to neutralize the acid in the Sirup, which sets the carbonic acid-gas free, or in other words, makes it foam, when it is ready to drink.

4. Sirup of Coffee, is made by putting the best ground Coffee, 1 oz. to 1 pt. of hot soft water and letting it steep properly without loss of Flavor by evaporation, and strain nicely through muslin; then adding $1\frac{1}{2}$ lbs. of loaf sugar only and bring just to a boil, and bottle. Half a wine-glass of this to a glass of cool water gives the sick "gold coffee"—night, or day, always ready.

5. Sirup of Tea, is made the same as for coffee, using 1 oz. of black, or such Tea as is preferred by the patient; and boiling 5, or 6 minutes, or properly steeping and straining while hot. Bottle and cork to prevent loss of flavor, with all Sirups.

SIRUP FOR DIARRHEA—also Laxative and Corrective in Constipation.—Best rhubarb, and pure carbonate of potassa, of each, $\frac{1}{4}$ oz.; golden-seal root, and cinnamon bark, of each, 1 dr.; refined, or loaf sugar, $\frac{1}{2}$ lb.; ess. of peppermint, $\frac{1}{4}$ oz.; alcohol of 76 to 85 per cent proof, 1 pt.; water, $\frac{1}{2}$ pt.

Pulverize the rhubarb, golden-seal, and cinnamon. Put them into a dish that can be closely covered and put on half of the alcohol and all of the water, steep thoroughly, strain and press out while hot; then add the sugar and carbonate of potassa, and dissolve by heat; then add the balance of the alcohol, and the ess., and bottle for use.

Dose.—For a child of 1 yr. $\frac{1}{2}$ tea-spoonful, of 2 to 4 yrs. 1 tea-spoonful, for an adult 1 to 2 table-spoonful; and in Diarrhea the Dose may be repeated every hour, until the color of the passages are changed, then less often, as the case demands.

The character of this Sirup is such as to correct the acidity of the stomach in Diarrhea, and also to *tone* it up in Constipation, having first in both diseases, acted as a Laxative. It may be used in few drop doses even, with the smallest children, sufficiently often to correct either Diarrhea, or Constipation.

SLEEPLESSNESS—a Remedy.—Sleeplessness is generally experienced only by those of a nervous temperament, or who have become nervous from disease.

It is caused by an over amount of blood to the brain—nature's Remedy is that which will turn the blood to its legitimate (proper) channels—the extremities, surface, etc.; for these persons will be found with cold feet, and cold surface; then let friction be applied to the whole surface, on retiring, with a flesh-brush, or a dry coarse towel, until the surface tingles with a pleasurable sensation of warmth, which arises from the circulation of the blood in the parts. And if on awaking in the night, you can not get to Sleep again, reasonable time, arise and apply the brush again; and at least twice a week, take a bath, see BATHING, using Castle soap to the surface freely, with friction until a warm healthy glow covers the whole surface.

This rule can be applied in *castle*, or *cabin*, and with a better success than the old way of "anodynes." Out of door exercise, during the day, to those who can walk, just enough not to feel fatigued, will also help these cases of extreme restlessness; and those who can not walk, must ride out and enjoy the scenery as much as possible, with a pleasant companion who shall be able to draw the invalids attention from himself as much as he can.

SOAP.—Soap is simply a chemical combination of potash, or soda, with fats, or oil and water in proper proportion; and notwithstanding there is much said of "luck" in making good Soap, or in believing that some persons can not make Soap, all that is necessary to enable any one to make good Soap, is to have good strong lye, or potash, or

caustic soda, and water, and they certainly will combine in the right proportion; if there is grease left on the top, when cool, it needs more strong lye, potash, or soda, as the case may be. Potash makes soft Soap, and caustic soda is used in making hard Soap. Manufacturers use soda-ash, which is an *impure caustic carbonate of soda* and consequently a cheaper article than the pure carbonate—sal-soda; but as the soda-ash may not be kept by druggists, in sections of the country where the manufacture of Soap is not carried on, a caustic-soda lye may be made, as follows:

1. Caustic-Soda Lye for Soaps, and for Washing Fluid Purposes.—Take sal-soda, 1 lb.; stone lime, 1 lb.; water, $\frac{1}{2}$ gal.; and keep these proportions for any amount desired to make.

Boil to dissolve the Soda, which will slack the lime and also add its Caustic strength to the Soda, having stirred it a few times while boiling, remove from the fire and let it settle—the clear Lye is to be poured off for use. For Washing Purposes, about 4 table-spoonsful of this Lye put to a boiler of clothes, which have been soaked over night, or even for an hour, then wrung out and Soaped, they may be boiled for 20 or 30 minutes, without having previously been rubbed at all; when with slight rubbing, and rinsing, clothing comes out nice and clean, without having been injured by the Lye—saving much labor of rubbing, saving also, the wearing and tearing of clothing by the rubbing process.

2. Hard Soap—To Make—White, and Yellow.—To Make Hard White Soap take any quantity of the CAUSTIC LYE, as in No. 1, above, or we will say, stone lime and Sal-Soda, of each, 6 lbs.; and water, 3 gals.; clean lard, or tallow, 6 lbs. After the Lye has been settled and poured off, as in No. 1, add the fat, and boil until it is of a thick and Soapy consistence; then pour into a square box, and when cold, it may be cut into bars, or it may be left in the kettle to get cold, then cut out in pieces and allowed to dry for use.

3. Yellow, Hard Soap.—To make the Yellow Soaps, any of the coarser fats may be used, in place of the "clean lard," or tallow, as in No. 2, the Soda, lime, water, etc., being the same; then add, with the fats, anywhere from 1 to 2 lbs. of rosin, to each lb. of fat, which gives toughness and durability to the Soap so it does not wear out so quickly by rubbing it upon the wet clothes, in washing—this is its only object—it adds nothing to the *strength* of the Soap, so far as removing dirt, or dissolving grease in the clothing is concerned.

4. Shakers Soft Soap.—Potash, 6 lbs.; grease, 7 lbs.; to make 40 gals., or 1 bbl. of Soap.

Toilet Soap.—Mutton tallow, 1 lb. 2 ozs.; Caustic Soda (soda-ash), $1\frac{1}{4}$ lbs.; olive-oil, 2 ozs.; oil of bergamot, 1 oz., or bergamot, rosemary, and lavender equal parts, to make 1 oz. would make a nicer flavor.

Use sufficient water to dissolve the Soda; then put in the tallow and olive-oil and boil to thoroughly incorporate and form the Soap. Lard may be used, but it does not make as hard a Soap; and either requires considerable boiling. The flavoring oils are not to be put in until the Soap is a little cool.

Where the soda-ash cannot be obtained, Sal-Soda, 1 lb. and lime 1 lb., as in No. 1, to make it caustic may be used, but it will require more boiling, in making the Soap, to remove the surplus water.

Oil of bitter almonds makes a very pleasant flavoring for Toilet Soaps.

SOLDERS.—Solders are of two kinds, *hard and soft*. Hard Solders require a red heat to melt them; and are used for gold and silver work, steel, and gun-metal, generally used, or fused, by means of the blow-pipe. The edges to be united must be clean—free from rust, grease, or dust.

1. Hard Solder, For Gold.—Gold, 13 grs.; pure silver, 4 grs.; pure copper, 7 grs. Melt together and run into a bar, to aid in rolling out thin, to cut easily into strips for use.

2. Another.—Another Hard Solder for Gold is: take Gold of the quality desired to Solder, 6 parts; silver, 1 part, copper, 2 parts—proceed as above.

3. Soft Solder for Gold.—Gold, 4 parts; silver, 1 part; copper, 1 part—proceed as in No. 1.

4. Solders for Gold of Different Fineness.—Gold, 4 parts; silver, 3; copper, 1; zinc, $\frac{1}{2}$ part. Used for 16 carats Gold and upwards.

5. GOLD AND SILVER, 3 each; copper same as No. 4. Used for 14 carats in fineness.

6. GOLD, 2; silver, 3; copper and zinc same as 4 and 5. Used for lower qualities than 8.

Melt the Gold, silver, and copper in a crucible; then add the zinc and run into bars, rolled, and cut, as required.

7. Hard Solder for Silver.—Fine Silver, 4 parts; copper, 1 part; melted together and rolled into sheet, to be handily cut into strips.

8. Soft Solder for Silver.—The softer Silver Solders are more generally used, when its strength will be sufficient, as it is easier fused, or melted. It consists of Silver, 2 parts; brass, 1 part, and a little arsenic added just as it is melted.

9. Another.—Silver, 19 parts; sheet brass, 10 parts; copper, 1 part.

10. Solder for Plated Silver.—Silver, 1 dr.; sheet brass, 2 pennyweights.

These can be run into convenient bars for rolling into sheets of a convenient thickness to cut into strips for use.

A strip of the Silver Solder is put on the joint and the blow-pipe soon melts it when it runs into the seam, filling it completely, if it was clean, and the proper flux used. These Solders can be powdered, for use, if deemed best.

11. Solder, for White Metals.—Tin, 10 parts; copper, 6 parts; brass, 4. Melt the copper and brass and add the tin; then stir and pour into cold water, which granulates it. It is then dried and pulverized, for use.

If it is desired to have something to fuse, or melt easier, add 2 parts of zinc.

12. Solder for Iron.—Sheet brass cut into proper sized pieces, and laid on the joint with powdered borax. Held in the fire with light blowing.

13. Solder for Tin.—The best Solder for Tin, is pure Banca Tin, and pure lead of each, equal parts. As yet, the purest Tin we have is the Banca, which comes from an island of that name off the coast of Sumatra; but discoveries of this metal have recently been made upon the northern shores of Lake Superior. Its quality however, has not yet been determined.

This last Solder is especially adapted for Tin work, lead and tin pipes, etc.; but it is sometimes used on brass, copper and gun-metal, using for these last a flux of rosin and sal-ammoniac; and for sheet iron Soldering this last flux is the appropriate one—for the more common soldering purposes, a solution of sal-ammoniac is run along the seam with a bit of sponge, fastened to a bit of wire, or the chloride of zinc (all the zinc that will dissolve in muriatic acid), then powdered rosin is dusted along the seam also. Zinc is a difficult metal to Solder for it oxidizes (rusts) so quickly; and it readily volatilizes (evaporates), also, if the heat is too great.

14. Fluxes for the Different Metals.—The word Flux comes from the Lat. *fluere*, to flow, and signifies such articles as when placed upon Metals and brought to a proper heat, will of themselves not only clean the surface, at least to a certain extent, and consequently flow over and into the joints, whereby the Solders also the more readily follow, and thus, the Solders being of a sufficient strength, a firm joint is made. If a fluid Flux is used, it is rubbed upon the parts with a bit of sponge before putting on the Solder; and if a powder is used they are dusted over the parts and a strip of the Solder also laid on, then the heat is applied. The articles used, as Fluxes, are borax, sal-ammoniac, rosin, and the muriate of zinc with sal-ammoniac added, as a fluid Flux.

MORE THROAT—PUTRID, OR BLACK-TONGUE—Remedy.—Flour of sulphur, and alum, of each, $\frac{1}{2}$ oz.; copperas, and white vitriol, of each, 20 grs.; honey sufficient quantity.

Put the alum, copperas, and vitriol upon a shovel and hold it over hot coals until the water of crystallization is driven off by the heat, and the mixture becomes dry; then pulverize finely, and mix with the sulphur; and then mix all to the consistence of molasses, with honey.

For an adult, a little of the mixture can be taken into the mouth and worked back to the root of the Tongue and into the Throat by holding the head back, as if gargling; then spit out, at first; after which take a bit more to the bulk of a common sized pea, and swallow, 2, or 3 times daily. For a child swabbing, or wetting the back part of the mouth must suffice. In all cases, a mild cathartic is valuable, as salts, or sulphur, etc.

For domestic animals it can be used more freely, as it will be found valuable for them. In what is called *black-tongue*, which has, at different times, been very troublesome in various parts of the United States.

SPICED VINEGAR FOR PICKLES.—For every qt. of best cider Vinegar take black pepper, 1 oz.; salt, ginger, allspice, of each, $\frac{1}{2}$ oz.; all of which must be bruised and placed in a jar, or bottle, with 2, or 3 small sized red pepper pods, or a little Cayenne, if any is desired—many persons can not relish the red pepper at all—and put the Vinegar upon them and keep warm for several days, or steep in an enameled sauce pan for 2, or 3 hours, stirring occasionally, or shaking if in a bottle; then strain.

Some persons will prefer cinnamon, mace, or some other flavor than those mentioned. They can substitute any one, with one of the others, as may suit their taste best. Upon most articles being Pickled, as cucumbers, beets, peaches, walnuts, etc., it is best to put this Spiced Vinegar upon them hot; but on cabbage, always put it on cold.

SPINAL AND NEURALGIC AFFECTIONS—Valuable Remedy.—Good cider vinegar, 1 pt.; sal-ammoniac, called also muriate of ammonia, 1 oz.

Dissolve the gum ammoniac in the vinegar, and bottle, to prevent evaporation, and bathe the Spine, 2 or 3 times daily with it; and if the urine is scanty or high colored, as it most generally is in these Spinal difficulties, one of the *diuretics* should be taken in connection with the outward bathings. This will also make a valuable gargle in sore throat.

KING SAYS, in speaking of sal-ammoniac, "as an external application it is used in the form of a plaster, or lotion, as a stimulating discutient and has been found valuable in chilblains, indolent tumors of all kinds, contusions," (bruises) "gangrene" (mortification) "psora" (itch) "ophthalmia" (sore eyes—the word coming from Greek words which signify the eye, and, to see; hence we get ophthalmic disease—disease of the eye or its membranes—which prevents one from seeing; straining the eyes would seem to be the original meaning of the words) "cynanche" (malignant sore throat—this word

also coming from Greek words which signify a dog, or a dog's collar, and, to choke—quinsy, and croup, as well as all malignant, or bad SORE THROATS, which see, may be included under the name *cynanche* "and in stimulating clysters" (injections) "and is also very beneficial in hemicrania" (pain affecting only one side of the head) "rheumatic face-ache and other Neuralgic Affections, in which it may be taken internally, in doses of a table-spoonful every hour, of a solution of 2 drs. of the sal-ammoniac dissolved in 6 fl. ozs of water" ($\frac{1}{2}$ of $\frac{1}{2}$ pt) "and continued until relieved."

Could any one ask more of any one article?

STYPTIC, To Stop Bleeding After Extracting Teeth.—"Among the multitude of known Styptics used to stop excessive Bleeding after Tooth Extraction, I am not aware if every dentist has tried the effect of 2 or 3 drops of tinctura capsici "(tinct. of capsicum)" on wool, firmly pressed into the cavity; my experience goes to prove it the best remedy extant; one application generally answering the purpose."—*Brit. Journal of Dental Science.*

3. A New Styptic.—Collodion, 100 parts; carbolic acid, 10 parts; Pelouse's tannin, 6 parts; benzoic acid, from the gum, 5 parts. Mix the ingredients in the order above written, and agitate until perfect solution is effected. This preparation has a brown color, and leaves on evaporation, a strongly adherent pellicle. It instantly coagulates blood, forming a consistent clot, and a wound rapidly cicatrizes (heals) under its protection.

In this Receipt we may use drops, or grs. in place of "parts"—It matters not the measure, or weight, keeping, however, the same proportions.

SULPHUROUS ACID—to Make.—As Sulphurous Acid is sometimes needed and as it is not always kept by druggists, in small places, I give a formula (Receipt) from the London *Chemical Gazette*, so that druggists can prepare it, when called for:

"Take stick sulphur, in fragments, 2 ozs.; and sulphuric acid, 25 ozs., and place them in a glass flask, furnished with a glass-gas tube. After this, heat it over a spirit lamp, when the sulphur will soon melt and an evolution" (to roll out) "of Sulphurous Acid will take place, which is conducted by the tube into the condensing vessel, through cold water."

SUN STROKE—to Prevent.—It has been affirmed that those who fill the top of the hat with cotton batting will not be struck down by the extreme heat of the Sun.

It is also claimed that a lining of yellow paper in the hat is a positive preventive of Sun Stroke from the fact that the yellow paper destroys the chemical rays of the Sun, which are believed to be the cause of Sun Stroke.

SWEET POTATO BALLS FOR FRYING.—First boil the Sweet Potatoes, then carefully mash the farinaceous, or soft part. Boil in the mean time 1 pt. of milk, putting in a little lemon peel, a couple of small lumps of sugar and a little salt. When the milk boils, take it off the fire and add the Potatoes, so as to form a paste, or rather a tolerable thick mush. When cool, make it into Balls; cover these with crumbs of bread and yolk of egg. Fry them to a nice brown color, and serve them up with sugar strewed over them.

TAPE-WORM.—The Tape-Worm is flat and jointed, the joints somewhat resembling the appearance of gourd seeds. The Worm is found from $\frac{1}{2}$ an inch to nearly an inch in width, and from 2, or 3 feet to over 100 feet in length—Dr. Gunn informs us that he has seen one that "measured a hundred feet." Many have been found from 30 to 50 feet in length. Each joint has pores, or openings by which it sucks up the chyle, or nourishing part of the food which is calculated for the support of the person's system, leaving them more, or less emaciated from this robbing process, which is constantly going on, the Worm generally occupying the upper portion of the intestines, from the fact, no doubt, that it finds the chyle—see the process of DIGESTION—the more nourishing to itself, the nearer it gets to the stomach.

Cause.—Some believe the Tape-Worm to be a *parasitic*, or perhaps more correctly, a *cystic* (dwelling in cysts, or bladder-like cells) parasite of the hog; and to be introduced in to the human system by eating pork which has not been cooked sufficiently to kill them; then let pork eaters have it well cooked. It is more likely however to be a natural consequence, of some particular condition of the system, adapting it to become the habitation of this, or other classes of Worms, which is not fully understood so as to be guarded against with any degree of certainty.

Symptoms.—One of the leading Symptoms of Tape-Worm is a voracious appetite, as the Worm is so peculiarly constructed, having these pores, or mouths, as above mentioned, on both sides of each joint, it takes up all along its length, what should go to build up the strength of the person, but the only positive Symptom of Tape-Worm is the passage of portions of it in the discharges. With this certainty manifesting itself, no time need be lost in entering upon its

Treatment—Specific, or Positive Remedy.—It is but a very few years since a Positive, or Specific Remedy has been found for Tape-Worm. Many articles have been used that have sometimes removed them, but not always; but in the December number of the *Eclectic Medical Journal*, Professor F. J. Locke, reports the manner of giving the bark of the root of the pomegranate (*granati radialis cortex*) which makes it so

positive in its action as to entitle it to be *the specific* (positive cure); while in its former manner of giving it, it was not always to be depended upon. The pomegranate is a small tree, or shrub growing upon the shores of the Mediterranean, in Persia, China, etc., and has been naturalized on some of the West India Islands, and other warm climates. The technical name of the tree is *punica granata*.

It has been formerly used in only 2 oz. doses of the bark; steeped in water, 1 qt., boiled to 1 pt.; then given in doses of one-fourth of that amount, every 1, or 2 hours—not always with success, as before remarked,—but the writings of some German physicians, among whom was Kuhenmeister, led him to try larger doses, until he reached a dose of *half a pound* steeped in water 1 qt. and $\frac{1}{2}$ pt. and boiled to 1 pt. given in *three* doses, 2 hours apart, not giving the 2nd nor 3rd if the 1st dose effected the object, but he combined with each dose 5 drops of oil of anise, and the fl. ex. of jalap, 1 dr. I will now let him speak for himself. He says:

"Of the constitutional effects of pomegranate it is not necessary for me to speak at this time. Certain it is that the agent is *not poisonous* to man in the large doses I have given. It is slightly *nauseous* and gently *laxative*. To insure its rapid passage through the bowels a brisk purgative should be combined with the pomegranate; an agreeable stomachic may be added to counteract the nausea excited. Some sensitive persons might have vomiting produced by large doses of the agent, or active purging. As a general thing the nausea is not distressing; and the *downward* action is too moderate.

Case in Practice.—"To illustrate the effect of the Remedy as I prepare it, I will report a case: Dr. — called on me, saying that he was troubled with a Tape-Worm, parts of which had escaped, or had been expelled on different occasions. He had taken koo-soo, male fern, and at different times, other remedies in greater or less repute. I assured him that I could secure the expulsion of the Worm; and volunteered to prepare and administer the Remedy. I took of the bark of the pomegranate root, *half a pound*, to this I added 2 $\frac{1}{2}$ pts. of water, and boiled the liquid down to 1 pt.

Dose.—"Of this decoction I gave the patient 6 ozs. after adding 5 drops of the oil of anise, and 1 dr. of the fl. ex. of jalap. I should have given about the same amount in 2 hours if the desired effect had not been produced. In 40 minutes after the first and only Dose was swallowed, an evacuation of the bowels occurred, and the entire Worm—head and all—was found to be expelled. In about 15 minutes after the medicine had been taken, nauseous sensations were excited which resulted in a slight attempt at vomiting, but not enough fluid was thrown from the stomach to interfere with an efficient action of the medicine downwards. *The patient sucked a lemon to allay the nausea.*

"To complete the report I will say that 6 hours before the Remedy was given, an active cathartic was taken, with an idea of preparing for a speedy contact of the pomegranate with the Worm.

"In this case the effect was rapid and satisfactory, no part of the parasite being lost. In some cases the slender neck of the Worm might be severed in the act of expulsion, and pass unobserved, though the death of the creature might be assured. The presence of the entire Worm in the discharge, is alone satisfactory. If the head of the Worm does not appear in the evacuation, it is best to administer a second dose of the medicine and await its action. If, at a subsequent period, it be known that the Worm was being reproduced from the unexpelled and living head, a repeated trial of the medicine might be made, but I have not had a failure. If I ever fall with the Dose recommended, I shall administer a larger one.

"In conclusion I deem it of consequence to say that the decoction should be prepared in an *earthenware vessel*; and that the pomegranate bark should be of good quality. Bark a year old, if properly preserved, retains its qualities in sufficient strength to prove efficient. Care should be exercised to guard against adulterations.

Particular Instructions in Giving the Medicine.—"To avoid misapprehension, and to place the prescription and method of preparation in a compact form, repeat to some extent what has already been said:

Take a $\frac{1}{2}$ lb. of bark from the pomegranate root, add 2 and a $\frac{1}{2}$ pts. of boiling water, the mixture stand in a warm place for at least 2 hours, then boil down to 1 pt. strain while hot, through a fine wire strainer. To every 6 ozs. of the decoction add 1 dr. of the fl. ex. of jalap and 5 drops of the oil of anise. Six ozs. ($\frac{3}{4}$ pt.) "of the preparation is regarded as a dose; and the Medicine should be given warm. It should be repeated every 2 hours until the Worm is expelled. Three hours prior to the administration of the first dose the bowels should be evacuated by the action of a cathartic, none being better than our anti bilious physic."—This physic is made as follows:

Anti Bilious Physic—Recommended to be Given with Medicine for Tape-Worm.—Take Alexandria senna, 1 oz.; jalap, $\frac{1}{2}$ oz.; cloves, or ginger, $\frac{1}{2}$ dr. The articles are all to be in fine powder, then evenly mixed and bottled.—*Beach.*

This mixture is also known among Eclectics, as *pulvis jalapæ compositus* (compound powder of jalap).

Dose.—"One dr." (a tea-spoonful), "put into a gill" ($\frac{1}{4}$ pt.) "of boiling water, and allowed to *stand* till cold, then sweeten if desired, and drink the whole contents."—*King* He also adds: "milk, wine, cider, lemonade, or coffee, etc., may be substituted, in proper cases, for the water. In febrile" (fever) "diseases its utility" (usefulness) "will be much increased by adding about 10 grs. of bitartrate of potassa to each dose."

This physic is considered valuable in almost any kind of disease, except inflammation of the stomach, or bowels. "An excellent *purgative*, useful in nearly all cases where such action is required."

2. Dr. Weinland's Corroboration.—Dr. Weinland, of Boston, after having dissected 5,000 animals to examine for Tape-Worm, and finding over 200 species (different in kind, or each one having some certain mark, or form distinctly different from any of the other kinds, the word coming from the Lat. *specere*, to look), only 5 of which were found in man, gives his Corroborating testimony also in favor of "the pomegranate bark as the best Remedy for Tape-Worm, although he was not then informed of its use only in the 2 oz. doses, as at first, above mentioned.

3. Dr. Fisk's Further Testimony in Favor of Dr. Locke's Specific for Tape-Worm.—Just as I was preparing the above matter for the press, April 3, 1873, my *Eclectic Medical Journal* comes to hand with this further testimony in favor of Prof. Lock's Treatment of Tape-Worm, by the large doses of pomegranate, as above recommended. This Testimony is from F. H. Fisk, M. D. of Springfield, Mo., and as the presence of this Worm is met with so seldom, it is of the utmost importance to report such cases when they do occur, for if only one man in a thousand is troubled with them, it is of the same importance to him to be rid of it as it would to any one of the thousand, even if all of them needed the Remedy. The following is the report:

"Mr. D. W., a clothier, called on me on the 4th of the present month, and said he had possession of a Tape-Worm, which he would 'like to be rid of.' Two or three Regulars had given him heroic doses of turpentine, with only the effect of causing a distressing condition of the anus and rectum, and bringing away about 10 feet of the Worm. I had Mr. W. to take a pill at bedtime, February 4th, 1873, and another the next morning, composed of: podophyllin, leptandrin, aa. grs. ss. (of each, $\frac{1}{2}$ gr.) "He ate very little breakfast, and a dish of oysters for his dinner. At 6 $\frac{1}{2}$ p. m. I gave him 6 ozs. of the following; I put a half pound of the bark of the root of the pomegranate in a tin boiler, and poured upon it 2 $\frac{1}{2}$ pts. of hot water, and allowed it to stand for 4 hours, where it kept warm. I then boiled it down to 12 ozs. ($\frac{3}{4}$ pt.) "decanted the liquid, and added 2 drs. fl. ex. jalap, and 2 drs. fl. ex. rhel. aromat." (aromatic fl. ex. of rhubarb).

"At 8 $\frac{1}{2}$ p. m. I gave the remainder of the preparation, and at 9 $\frac{1}{2}$ p. m. the bowels moved, when the Worm—a *tenia cucurbitina* (long Tape-Worm) "was expelled, with no extraordinary effort of the bowels. No nausea, no griping or other unpleasant effect attended the action of the Remedies. The medicine was given warm. The whole length of the Worm was about 25 feet. The Worm was dead, as not a joint from the head to the tail moved after it was expelled."

Tape-Worm—Successful Remedy, Long Used in India.—Kameela (*Mallotus Philippinensis*) "has been known as a Remedy for Tape-Worm, among European and American physicians, for only a few years, though long known and employed for this purpose in India. Dr. C. Mackinnon, a surgeon in the English army in India, first made its properties known to the profession; he having been almost invariably successful with it. Since which, other practitioners have employed it with equal success.

Dose.—"In Doses, of from 2 to 4 drs. it purges, often with griping, or nausea and vomiting, and producing from 4 to 10, or 15 stools. The Worm is usually expelled *entire*; but sometimes without the head, in the 3rd, or 4th stool, after 3 drs. of the powder have been administered. A strong Alcoholic tincture acts more mildly and with more uniform effects. The dose of the powder, for an adult, is from 2 $\frac{1}{2}$ to 3 drs., in mucilage, sirup, or other vehicle. The Dose of the tincture, made in the proportion of 3 ozs. to $\frac{1}{2}$ pt. of alcohol, is $\frac{1}{2}$ oz., to be repeated if necessary."—King.

I should recommend the tincture; and the probability is that the article will have to be sent for to some of the large-city druggists, if so, in any case of sending for articles, always write what is called the *technical* name, found in brackets, as well as the common name. Notwithstanding I should prefer the pomegranate, if I had occasion to use either, I have deemed it but proper to give this prescription a place, here, for it may be needed where the pomegranate can not be obtained; and I will also quote a passage, upon the subject of Tape-Worm, from a recently published medical work, by Dr. Warren, as his Remedy can be easily obtained almost anywhere, although I think if he had known of the above items he would not have said that "no other Remedy has yet shown itself as effectual as pumpkin-seeds"—he wrote of course from what he knew—that much good, and no doubt some permanent cures have been made with them, there is no doubt, and what has been done, may be done again.

DR. WARREN says in his "Household Physician," published in Boston in 1870, that "for the tape-worm, no other remedy has yet shown itself as effectual as pumpkin-seeds. The seeds should be well bruised, and steeped in water. This should be drank freely for several days, if need be. It is believed to be a sure remedy, even in cases of several years standing."

Abyssinian Remedy—Has Removed over 300 Tape-Worms in Chicago, in Two Years.—Before leaving this subject, notwithstanding I am pressed for room, unless I greatly extend the size of the Book beyond my original design, I feel that I must mention one more Remedy—the Abyssinian—kousso, spelled also kosso, and kossou (*brayera anthelmintica*), which has been used for many years, but not with the same success that has attended its more recent use, especially in this country.

S. H. Potter, M. D., of Hamilton, O., calls especial attention to the koussou (*brayera*), from the fact that men were going around the country and finding cases of Tape-Worm, then finding a physician who was willing to pay \$100 for the Receipt if he removed the Worm. This having been done near him, as I judge from his communication to the *Eclectic Journal*, in 1872, I believe, he desired to stop such proceedings by making known, more publicly, what he calls "the most effective" of all of the "specifics," but it should be remembered that this occurred before Prof. Lock had made public, the Treatment, as given in the first instance, above.

The *koussou* is a shrubby tree growing in Abyssinia, seldom exceeding 25 feet in height; and the flowers are the part used, by reducing them to a fine powder, which is of a brownish color, of a bitterish taste, the tea, made from the powder, it is said, resembles a weak senna tea. Kings says: "Its operation is safe, speedy and most effectual, rarely causing any annoyance, or uneasiness, except a slight nausea, and this but seldom; occasionally emesis" [vomiting] "takes place, or diuresis" (increased flow of urine). "A gentle cathartic after its operation is also advisable. As far as it has been used, it has not failed to kill and expel the worm."

Manner of taking, and the Dose.—After having kept the patient on a low diet, or considerably short of full diet for a day or two, and having given a cathartic so as to have the bowels in a loose condition:

Take 4½ drs. (½ oz. and ½ dr.) and put into ½ pt. of warm water and keep warm for 15 minutes, not to boil; then stir and take in 1, 2, or 3 Doses, following each other every few minutes, if not all taken at one time. Lemon juice may be taken, or tamarind water may be taken freely before and after the koussou, to prevent nausea; and Dr. Potter says: "I always give it after fasting and in a loose condition of the bowels, and follow it with a brisk purge of oil and turpentine emulsion, and it succeeds charmingly, and with little inconvenience or detriment to the patient."

It is possible that the Chlcagans have more Tape-Worms than in other places, to give a chance for the successful Treatment of 300 cases in two years time, but this the Doctor says was the case.

TONICS.—I now come to speak of the last class of medicines referred to on page 64 under the head of ALTERATIVES, which see, where the names of all of the different classes will be found and can be referred to as desired.

Tonics, as a class, are used to improve the condition of the digestive organs, whereby the digestive powers are increased, which also improves the appetite; or in other words, calls for more food which furnishes more nourishment to supply the renewing vigor and strength of the body, as a whole. But as a general thing Tonics are combined with *alteratives* and *stimulants*, by which their own powers are increased, and change is the sooner made, for the better. Gentle *cathartics*, or *diuretics* may also be combined with them, in moderate quantities, saving the trouble of taking medicine at so many different times through the day, and also to save losing time to prepare the system by the administration of cathartics before beginning the Tonics; as, for instance in case of ague, etc., the CHALAGOGUE, OR BILLIOUS TONIC, which see, on page 251, is a Tonic having in combination with it, cathartic and stimulant articles, making it a valuable preparation for general purposes, requiring these different properties. I shall only refer to a few of the leading Tonics, by name, the principal one of which, in periodic diseases, must be set down as the Peruvian bark, or quinine, which is made from it.

Quinine, is the active principle of Peruvian bark, and from the fact that the dose required is so much less than of the bark, it has generally been substituted for it; but for females and those of a weakly habit of body, I greatly prefer (in place of the Quinine), the best red, Peruvian bark, pulverized, and combined with any of the other Tonics, with wine and a small portion of whisky, or alcohol added with it, say wine 1 qt.; whisky ½ pt., or alcohol 1 gill, and not less than 1 ½ to 2 ozs. of the bark, adding also any other roots, or other barks which are mentioned below, adding cinnamon, cloves, etc., as a stomachic, which will also improve the taste of the bitters.

Iron appears to occupy a place among Tonics, but it is believed, again, by others, that it is not absolutely Tonic in itself, yet as it appears to have some direct action upon the blood, making it more red, or florid in appearance, as we say a *florid countenance*, meaning a red and healthy appearance, and as Iron has this effect upon the blood, it is generally prescribed for those of a weak habit of body, indicated by a pale countenance, etc., especially with females. It may be given by filing up iron wire and putting ¼ oz., or so into a qt. of wine, or into any of the Tonic bitters; or it may be given by putting ¼ oz. of the carbonate of Iron, kept by druggists, into the above amount; or the "Elixir of Calisaya and Iron," which is also kept by druggists, may be used. I have often prescribed it in these weak and feeble cases with the greatest benefit.

Golden-Seal (*hydrastis Canadensis*), wild cherry tree bark (*prunus Virginiana*) dogwood bark (*cornus Florida*), popular bark (*liriodendron tulipifera*—the tulip tree) known also as white poplar, yellow poplar, white-wood, etc. is a stimulant Tonic and somewhat aromatic, valuable after intermittent fevers, chronic rheumatisms, chronic inflammations, etc., etc.

Collinsonia* is claimed by Prof. Scudder as a valuable article to increase the appetite and aid digestion, and improve the secretions. I will close the subject of Tonics by quoting from his "Domestic Medicine," upon this article. He says:

Collinsonia.—"The Collinsonia is my favorite remedy in many of the cases requiring an agent to increase the appetite and digestion. Its action is gentle, but persistent, not only increasing the tone of the stomach, but strengthening the nervous system, and improving secretion from the skin, kidneys and bowels. I direct essential tincture of Collinsonia and simple sirup, equal parts, a tea-spoonful four times a day."

Compound Collinsonia and Phosphorus Tonic for the Nerves.—Take of essential tincture of Collinsonia and simple sirup, equal parts, 7 ozs.; tinct. of phosphorus, $\frac{1}{2}$ oz.; essential tinct. of leptandra, $1\frac{1}{2}$ ozs.; citrate of iron, 1 dr. This possesses, in addition to its Tonic properties, phosphorus in a soluble form, for the nutrition of the Nervous tissues, and iron to increase the red globules of the blood.

T. MISCELLANEOUS RECEIPTS. T.

1. TANNING SKINS WITH THE WOOL, OR HAIR ON.—First thoroughly soak the Skins in soft water, and then with an old knife, or sword-shaped stick, or a piece of an old scythe about 2 ft. long, with handles of wood at each end, remove all flesh and fat, and trim off skirts, or rough edges; then make a mixture of pulverized alum, 1 lb.; with salt, $\frac{1}{2}$ lb.; and wheat bran, 2 handfuls, formed into a paste with a little water, and spread over each Skin—this makes enough for 1 Skin only—then roll it up; and let it lie in the shade for 3, or 4 days; then shake off, and rub and pull the Skin, as it begins to get a little dry until it is soft and pliable, and the great job of Tanning a Sheep Skin, Deer Skin, etc., as the case may be, is done. *This is from a practical Tanner.*

2. Another.—Nail the fresh Skins tightly to a board, the flesh side out; then with a blunt knife remove all the fat and flesh; and rub in fine chalk until the chalk begins to powder and fall off; then loosen the Skin and fill it with finely-ground alum and wrap it closely and lay by for 2, or 3 days in a dry place, after which shake out the alum and work well and the thing is complete.

TAPIOCA—Suitable Food for Children at Time of Weaning.—Tapioca is a very nourishing diet, as well as demulcent, i. e. of a mucilaginous nature, protecting the stomach and bowels from irritation like slippery elm, and is valuable for infants about being Weaned, as it is not as likely as most other farinaceous—flour-like preparations—to sour on the stomach. A little sugar may be added to improve the taste, or the juice of raisins, prunes, lemon juice, or wine, or spices, to suit the taste of adults, in sickness.—*King.*

TOE-NAIL—Ingrowing—Painless Remedy.—Henry Finch, M. D., reports, through the *British Medical Journal*, that neither of the cutting, or burning operations are at all necessary for the complete and rapid cure of Ingrowing Toe-Nail. If a small, thin flat piece of silver plate be bent at one edge into a slight deep groove, and after the Toe has been poulticed 24 hours, slipped beneath the edge of the Nail, so as to protect the flesh from its pressure, and the rest of the thin plate bent round the side and front of the Toe, being kept in position with a small portion of rosin plaster passed round the Toe, a speedy and almost Painless cure will take place; and the patient, after the first day, has the additional advantage of being able to walk. Dr. Finch has followed this method in numerous cases with uniform success.

TOMATO SOUP—EXCELLENT.—Nice ripe Tomatoes, peeled and cut fine, 1 pt. to each qt. of water necessary to make as much Soup as will be required for the family, and 1 pt. of sweet milk for each pt. of Tomatoes, with salt and pepper to taste, and a little butter.

Boil the Tomatoes in the water, until perfectly soft and dissolved; then add the milk, salt, pepper and butter, just before serving. I have never eaten Soup of any kind, to suit me as well as this; and the first time we tried it, the girl living with us, who would never eat Tomatoes before, in any form, liked this very much.

Tomatoes—to Dry for Winter Use.—Small sized, but quite ripe Tomatoes are to be chosen. Wash and scald them with boiling water; then peel, and squeeze, singly, in the hand, to remove a little of the juice, or water, after which slice them and dry on tins, in an oven, to prevent souring. For use, soak awhile, then stew, or cook as fresh Tomatoes—saves the expense of canning.

Tomatoes Sliced and Dressed to Resemble Strawberries.—Take

**Collinsonia canadensis*, common names "Stone-root, ox-balm, and by some also known as hardhack, horseweed, heal-all, richweed, etc., is an American herb, with a knobby root, and a four-sided stem from 2 to 4 ft. in height, is found growing in rich moist woods, from Canada to Florida, blowing from July to September. The whole plant has a peculiar, lemon-like, balsamic odor, rather disagreeable in the root, and a spicy, pungent taste" (a kind of a pricking, or piercing taste, the word coming from the Lat; *pringere* to prick), "water, or alcohol extracts its virtues; boiling destroys it, as the active principle is volatile. The fresh root is the part used."—*King.*

This article however must not be confounded with the *scrophularia nodosa*, described on page 573 under Mrs. WOLF'S OINTMENT FOR BURNS, etc., notwithstanding that article also bears the common names of heal-all and square-stem, they are not the same.

fully ripe Tomatoes and peel and Slice them as if for pepper salt and vinegar; but in place of them, cover the surface pretty freely with pulverized white sugar, then cover them with claret wine; and they will very nearly resemble Strawberries—being very nice. But when no wine is at hand, use vinegar, if sharp, diluted half, or more, with water. I have no doubt but what any of the fruit-wines would do very well in place of the claret; but I did not get the Receipt until too late to try only the claret, with that the dish will astonish most persons with its near resemblance to Strawberries.

TOAST WITH INDIAN BREAD.—Place 2 qts. of milk over the fire. When it boils, add a spoonful of flour to thicken, a tea-spoonful of salt, a small lump of butter, 2 table-spoonful of sugar; have ready, in a deep dish, 6, or 8 slices of light Indian Bread Toasted. Pour the mixture over them, and serve hot.

1. TOOTH POWDER.—Precipitated chalk (kept by druggists), 1 oz.; very finely pulverized borax, 1 dr.; rose oil 2, or 3 drops. Intimately mix and keep in closely covered boxes for use.

To use, dip a soft Tooth-brush into a tumbler of water and brush the whole surface of the Teeth thoroughly with the Powder, then rinse out by taking a mouthful, or two of water and re-brushing, at least once daily. I consider the morning, on rising, the most appropriate time for it. This has been used by Dr. Jackson, one of our city dentists, for several years, and recommended it in his practice. I have used it now for 1 ½, or 2 years, beginning its use by his recommendation, and I find it keeps the Teeth perfectly white, and the gums in a healthy condition also.

2. DR. PORTER, another of our dentists recommends to dissolve camphor gum, 3 grs. in a trifle of alcohol and mixing into the Powder No. 1, in place of the rose oil. He considers the camphor improves the condition of the gums; and, of that fact there is not a doubt, in cases where there is any tendency to sponginess, or bleeding of the gums. See TOOTH POWDER, No. 9, under the head of *cosmetics*, page 297, for the further action, and the necessity for the use of Tooth Powders.

ULCERS.—Ulcers, are more commonly known as "fever sores," "old sores," etc., from which there is generally a discharge of matter, more, or less offensive; and also as a general thing attended with some inflammation, and not unfrequently with considerable pain.

Cause.—Injury to the parts, or from an inflammation, or from a fever, or from a scrofulous taint of the system, which may leave an acrid or poisonous matter in the blood; then a slight injury may locate it in any part of the system; but most frequently upon the legs, because blood even, does not flow uphill as easily as it does down.

Treatment.—To reduce inflammation, poultice with slippery-elm, changing as often as need be, night and morning, generally; washing with Castile soap and warm water at each change of the poultice. Cathartic, diuretic, and alterative Treatment must also be attended to, if success is expected to follow. And in cases where there is fungus, or proud flesh, as it is called, a little of the **VEGETABLE CAUSTIC**, which see, may be finely pulverized, and a little of it dusted upon that part. It might be well however, if none of that is on hand to try the burned alum, at first; but if that does not succeed the caustic will have to be resorted to; and in case of sinuses, or openings from any deep seated Ulcer, ½ a tea-spoonful of the vegetable caustic may be dissolved in ½ pt. of rain water, and a little of it injected into the opening, increasing the strength of it a little if it can be borne any stronger. A wash made the same as for **ULCERATED SORE MOUTH**, below, will be found valuable. Washing an Ulcer in simple lye water, of such a strength as not to cause too much smarting has proved valuable. The washing should be extended to 20 minutes, or ¼ an hour, twice daily. It may be well also to support the limb, as soon as it manifests a disposition to heal, with the **BANDAGE**, which see explained at page 139, FIG. 20. In applying a bandage to any part of a limb where its shape throws the bandage from its regular form, turn it with a fold, as seen at FIG. 20, to carry it straight again, and be careful that the pressure is equalized by its application, otherwise injury in place of good would result.

After healing is fairly established, **MAYERS OINTMENT**, which see, or any of the common ointments may be used as a common dressing, with the addition of pulverized camphor gum, ¼ oz. to a tea-cupful of ointment, or a little camphor spirits may be put into the ointment, or warm water with which they are washed, or better still if both is done, as it gives an increased stimulative action to the parts.

Dr. Beach says he has cured cases that "baffled the skill of all physicians," by the use of an ointment made of "sweet clover tops and stalks, burdock leaves, and parsley" (*apum petroselinum*, the root, or seeds, I believe, will do equally well), "a handful o. each; boil in water till you get the strength; strain and add rosin, 1 lb., and fresh butter, ¼ lb. Slinger until of a proper consistence." He adds: "this Receipt cost \$50."

ULCERATION OF THE MOUTH, FAUCES, ETC., REMEDY.—A very valuable Remedy for Ulcers of the Mouth and Fauces (the back part of the Mouth and upper part of the throat) is to take golden-seal root (*hydrastis Canadensis*) and blue-cohosh root (*coulaphyl-*

lum thalictroides), equal parts of each, and make a strong decoction, or tea and sweeten it well with honey.

Use as a gargle in all Ulcerations of the Mouth and Fauces, and after gargling and cleaning the Throat with it; then swallow a tea-spoonful, or two; gargling and swallowing 3, or 4 times daily. It is also valuable as an injection into the bladder, in Ulceration of that organ, by reducing with a little water; or in this case the golden seal may be used alone; injecting after urinating, and retaining it as long as you can. Prof. King claims it to have almost perfect control over inflammations and Ulcerations of mucus tissues—uses it in diseases of the eye, as well as the bladder, Mouth, stomach etc., and has used it over 20 years with success. It has been claimed as a valuable Remedy in cancers, by the Indians; but Prof. King has had no success with it in cancer, and thinks it was only used by them, to color, and thereby blind the real agent which performed the cures—no doubt of it, for it has *no* caustic properties.

It is also a valuable tonic, used internally in dyspepsia, chronic affections of the mucus coats of the stomach, and other organs, catarrhal affections, erysipelas, remittent, intermittent, and typhoid fevers, torpor, or inactivity of the liver, and whenever tonics are required. It is known in some sections of the country as yellow puceoon, ground raspberry, tumeric root, etc.

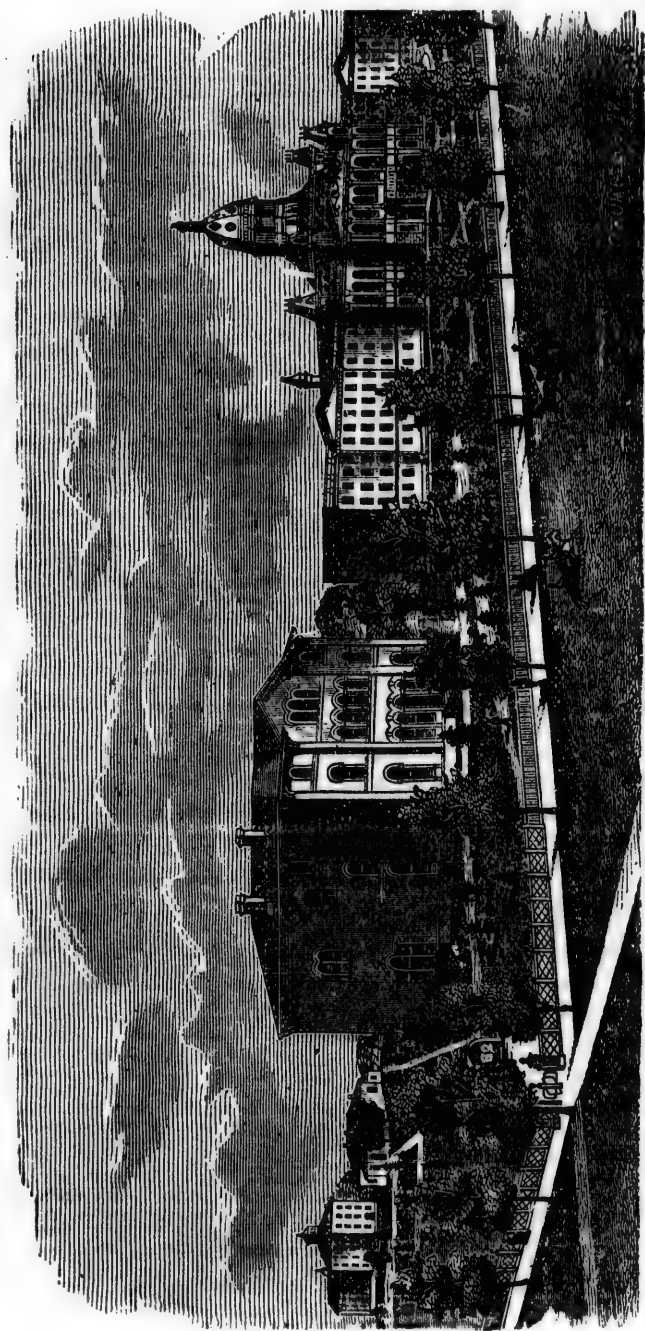
2. *Privet* leaves, in decoction, or tea is also recommended in the same difficulties, being astringent, are also valuable in chronic bowel complaints, Ulceration of the stomach and bowels, as a gargle for Ulcers of the Mouth and throat; and as an injection for Ulcerated ears with offensive discharges, leucorrhea, gleet and Ulceration of the bladder, and in diabetes. The leaves, when they can be obtained, might be combined with the golden seal and cohosh, without injuring their action, but with a prospect of improvement. It is grown in gardens, hedges, etc.

3. *The Earth Cure For Ulcers*.—I dried and pulverized some clay, says a writer in *The Country Gentleman*, and recommended it as a valuable remedy to a neighbor woman who had for 10 years had a very bad Ulcer on her ankle. She had paid our best physicians over \$50 for treatment, without any relief. She applied the dried clay almost constantly for about 6 months, and a perfect cure has resulted. The first effect of the preparation was to remove inflammation and relieve pain, and now she says there is no scar remaining, and her limb, which was stiff and lame, is as elastic as when she was a girl. The woman is a very large, fleshy person, about 40 years of age. I consider the test a very severe one, and the result very satisfactory. About a gallon of pulverized clay was used.

UNIVERSITY OF MICHIGAN.—The University of Michigan, situated in the City of Ann Arbor, is an institution of which every citizen of the place feels justly proud; and as the design of this Book is to give the people valuable information, and as many persons will see this Book who would not otherwise know of the existence, or advantages, peculiarly, in making this their place for study, I deem it both proper and right to give an *ILLUSTRATION* of it, and to point out the advantages of attending it, instead of the very much more expensive ones of the eastern cities, where over \$100 yearly is charged for tuition, while at this institution, *no tuition at all is charged*. Residents of the State pay an *admission* fee of \$10 and *non residents* an *admission* fee of \$25, which entitles each one to all of the privileges and advantages of either of the Departments of the University until they graduate; besides this admission fee, to be paid only *once*, an *annual* fee of \$10 is charged to *residents* and *non residents* alike, to keep up the *incidental* expenses of the institution. The reason for this liberality on the part of the University will be understood by reading the following quotations from its Calendar for 1872-3, recently issued. It says:

"The University of Michigan is a part of the public educational system of the State. The Constitution of the State provides for the perpetuation of the governing body of the Institution, the Board of Regents. They are elected for terms of eight years by popular vote. In accordance with the law of the State the University aims to complete and crown the work which is begun in the public schools, by furnishing ample facilities for a liberal education in Literature, Science, and the Arts, and for thorough and extended professional study of Medicine and Law. Through the aid which has been received from the United States and from the State it is enabled to offer its privileges, without charge of tuition, to all persons, of either sex, who are qualified for admission. Its relation to the public schools of the State has now become even closer and more vital than formerly, since under certain conditions the graduates of High Schools are received into the University without examination. While Michigan has endowed her University primarily for the higher education of her own sons and daughters, it must be understood that she also opens the doors of the Institution to all students, wherever their homes. Students from other States are asked to pay a larger admission fee than students from Michigan, but they receive their instruction and access to all the advantages of life at the University, without incurring any charge for tuition. It is in this broad, generous, and hospitable spirit that the University has been founded, and that it endeavors to do its work.

"The University is organized in three Departments, as follows: the Department of



HALL AND RECITATION ROOMS.

LAW AND LIBRARY BUILDING.

MEDICAL, CHEM. LABORATORY.

UNIVERSITY OF MICHIGAN.

Literature, Science, and the Arts; the Department of Medicine and Surgery; and the Department of Law."

Expense of Board, etc.—"The admission fee is paid but once, and entitles the student to the privileges of permanent membership in any Department of the University. The annual tax is paid the first year, and every year thereafter," until the course is completed.

"There are no dormitories and no commons connected with the University. Students obtain board and lodging in private families for from three to five dollars per week. Clubs are also formed, in which the cost of board is from one dollar and a half to two dollars and a half per week.

"It is proper to say, in answer to numerous inquiries, that the University does not undertake to furnish manual labor to students. Yet a considerable number of students find, in the city, opportunities for remunerative labor.

"Room rent varies from seventy-five cents to two dollars per week for each student.

"The annual expenses for students in the Academic Department for the last few years, including clothing and incidentals have been, on the average, about \$362. The expenses of Law and Medical students are from \$150 to \$200 per term of six months."

I think that students, or others who have, or may visit the University will acknowledge that the cut, connected herewith, gives a fair representation of the University buildings, and of the "college campus," or grounds, at this writing, 1873.

The Hall, or central portion of the main building of the University which has recently been built at an expense of over \$100,000, fills the space of 133 feet which before existed between what are now called the two wings—previously separate buildings—making a total frontage of nearly 350 feet, with a depth in the main building of 180 feet, having four lofty stories, 15, 14, 13 and 15 feet high respectively, and the whole surmounted by a large dome, reaching the height of 140 feet above the ground.

The great Hall itself is 130x80 feet, and 46 feet high; and is capable of seating 3,000 people—The main floor will seat 1,700 and the gallery 1,300.

The total number of students in attendance during the college year of 1872-3 was 1,164—divided as follows: in the Literary Department, 476—Medical, 357—Law, 331, coming from 30 different States, and Territories, the District of Columbia, Ontario, Nova Scotia, the Hawaiian Islands, and from Japan, which I think, fully justifies the idea prevalent with us, that the University of Michigan holds a prominent position among the educational institutions of the Western World.

I shall only add, that any one desiring further information upon the subject will address the Steward of the University, who will forward the Calendar, which will give all particulars, as to age, qualifications, etc., necessary for admission.

URINARY DIFFICULTIES—Diuretic Compound for.—In common cases of partial suppression, or scanty Urine, or when it is high colored the following Compound will be found very useful:

Trailing arbutus (for a description of this plant see DIURETICS, page 318), queen of the meadow root, dwarf-elder bark, and marsh-mallow root, of each coarsely pulverized, 1 oz.; good gin, and boiling water, of each, 1 pt.; honey 1 lb. All of the plants, or herbs, are kept by the principal druggists.

Put the gin upon the mixture in a dish that can be closely covered; then pour on the boiling water, cover up and keep hot for 3, or 4 hours; then strain and add the honey, keeping corked.

DOSE.—One to 2 table-spoonsful, ordinarily, 3, or 4 times daily; in bad cases every hour, or two until relieved, or benighted; then less often, as needed. Prof. King says, that in gravel, "a corresponding quantity of wild-carrot root and seed may be advantageously added to the other articles." He also thinks highly of it "in chronic catarrh of the bladder" (if a catarrh of the head, which is an inflammation of the parts causes a discharge from the nostrils, a catarrh of the bladder may be expected to cause a discharge from that organ), "suppression of Urine, high colored, or scalding Urine, inflammation of the urethra" (the external passage from the bladder), "and other disorders of the Urinary organs."

VEGETABLE CAUSTIC.—Vegetable Caustics act much more mildly than mineral, and perhaps for the removal of fungus flesh, or what is generally called "proud flesh" nothing will be found better than Beach's Vegetable Caustic made as follows:

"Make a strong lye of hickory, or oak ashes, put into an iron kettle, and evaporate till dry; pulverize and preserve in covered vessels." I would say bottle and cork.

"This Caustic is highly useful in the treatment of fistulas; also in indolent ulcers of every character. It removes fungus flesh without exciting any inflammation, and acts but little, except on spongy, or soft flesh. It is useful in cancers, and in every case where a Caustic is required."—Beach's Family Practice.

1. VERMIFUGE—MORROWS—Very Valuable.—A very valuable Vermifuge is made as follows:

Oil of turpentine, and oil of anise, of each, $\frac{1}{2}$ oz.; castor-oil and wormseed-oil, of each, 1 oz. Mix.

Dose.—For an adult, 1 tea-spoonful every 2 hours. Children according to age.

T. V. Morrow, M. D., formerly a Professor in the Eclectic Medical Institute, and author of a work on Practice, considers this a very satisfactory and effectual remedy for worms, using a cathartic, after it has been used 2, or 3 days, if the stomach will bear it so long.

2. **Vermifuge.**—Castor-oil, and oil of wormseed, of each, 1 oz.; oil of anise, and tinct. of myrrh, of each, $\frac{1}{2}$ dr.; oil of turpentine, 10 drops; and croton-oil, 1 drop. Mix.

Dose.—A tea-spoonful every 2 hours for 10 to 12 hours, and if the worms do not pass off, a cathartic should follow.

3. **Vermifuge, Laxative, and Tonic, for Pale and Sickly Children.**—Red cedar (*Juniperus Virginiana*) apples, 1 lb.; black alder (*Prinos verticillatus*) berries, 1 pt.; alcohol, 1 qt.; molasses, 1 pt.

The cedar apple is formed much the same way as nut-galls on the oak, by the boring of a worm, then an exudation, or issuing of a matter that dries, etc. These are bruised and with the alder berries, put into the alcohol and molasses for 2 weeks.

Dose.—For a child 1 to 2 years old, 1 tea-spoonful, 3 times a day. It will prove Vermifuge, Laxative and Tonic. Prof. King says he has used it in *hundreds* of cases with much success. The more recent the articles are gathered the better.

4. **A Good Vermifuge.**—Santonine, rubbed very fine, 16 grs.; Glycerine, 1 fl. oz.; rubbed with the above, adding it slowly; then add tinct. of rhubarb and aloes, 2 fl. dra. Mix. Shake when using.

Dose.—10 to 60 drops each day, according to age.—M. F. DUMAS. I should give it in divided doses. The combined tinctures of rhubarb and aloes are calculated to work off the worms.

VINEGAR FOR FAMILIES—To Make.—A neighbor of mine keeps up her Vinegar for Family use by placing in a suitable jug, Orleans molasses, 1 qt.; soft water, 5 qts.; and yeast $\frac{1}{2}$ pt.

Setting in the sun, in Summer, and by the stove in Winter, shaking the jug every day, during the first 3 weeks, while it is making, and has no further trouble.

Vinegar from the Juice of Sugar Beets.—The Juice of 1 bu. of Sugar Beets, worth 25 cts., and which any farmer can raise with little cost, will make from 5 to 6 gals. of Vinegar equal to the best elder wine Vinegar. First wash and grate the Beets, and express the Juice in a cheese-press, or in any way that a little ingenuity can invent, and put the liquid into a barrel, cover the bung with gauze and set it in the sun, and in 15 to 20 days it will be fit for use. By this method the very best of Vinegar may be made without any great trouble, and I hope all who like good Vinegar will try it.—*Ohio Valley Farmer.*

Red Raspberry Vinegar For Invalids.—Put 1 qt. of good Vinegar over 2 qts. of berries. Let them stand over night, strain, and pour the juice over 2 more qts. of berries; stand over night, then strain again. To every pint of juice allow 1 lb. of white sugar. Let it come gently to a boil, and bottle for use in small-necked bottles. One table-spoonful to a glass of ice-water makes a refreshing Summer beverage, and is also excellent for Invalids.—*American Agriculturist.*

WARTS—to Cure.—*Hall's Journal of Health*, which is reliable, says that to dip a stick, the size of a knitting-needle, into *muratic acid*, and touch the top of the Wart, night and morning, with what adheres to the stick, will effect a painless cure.

Let only a $\frac{1}{4}$ oz. be bot. in a glass-stoppered bottle, and keep it out of the way of children, off of your clothes, and off of the skin, and you are safe.

2. Moistened pearl-ash, applied to the top of the Warts, for several days, has removed them also.

3. **Sal-Ammoniac.**—Two, or 3 cents worth in a gill of soft water, and the Warts wetted with it frequently for a week, or two, has removed them.

4. The same treatment with a weak solution of potash has done the same; and will have the same effect on corns, if used sufficiently strong; and do not get it upon the sound surface.

5. DR. RAINEY, of St. Thomas' Hospital, London, has written an article to the *Lancet*, detailing the effects of creosote applied to Warts. He applied it freely to an obstinate Warty excrescence on the finger, then covered it over with a piece of sticking plaster. This course he pursued every 3 days for 2 weeks, when the Wart was found to have disappeared, leaving the part beneath it quite healthy.

WASHING MADE EASY, or New Washing Fluid.—Take unslacked lime, 1 lb.; soda-ash, 2 lbs.; boil in 4 qts. of water; then let settle and pour off the clear fluid; then put on 1 qt. more of water and stir up and when it has settled pour off again with the first. Use 1 cup-ful for a Washing. Soak the clothes over night. Have the suds boiling hot and put in the clothes and boil 15, or 20 minutes—rinse out, only needing to rub very slightly, any stained, or particularly soiled places, as shirt-wristbands, neck-bindings, etc

In places where the soda-ash can not be obtained, see CAUSTIC-SODA LYE, etc., page 611.

WENS—A Painless Cure.—Mr. M. M. Lee, of Battle Creek, Mich., writes to the *Detroit Tribune*, Nov. 3, 1871, saying:

"I saw in the Farmers' Column of the *Tribune* an inquiry by Mr. Neve for a Cure for Wens. You say they must be cut out. I have Cured many of them by taking soap from the side of the tub or barrel, where it had become partly dried, and rubbing it on the Wen once a day for a few days. If the Wen has become hard, apply the soap, and after a little while, wash it off and apply more, until it is Cured. I have Cured them after they had broke and run for a month. Please publish this for the benefit of Mr. Neve and others." I have not tried this; but if it is good for Mr. Neve, it will be good for any one who has a Wen.

2. It is said that if all the salt that will dissolve in the yolk of an egg is applied to Wens every 12 hours, that it has, and will remove them.

WINES—Blackberry Wine.—Having measured and mashed your Blackberries, or dew berries in a suitable tub, pour boiling water, 1 qt. for every 4 qts. of berries, stirring them occasionally until the next day; then strain; and to each gal. of the fluid add 4½ lbs. of crushed, white sugar, dissolving it by pouring some of the Wine upon the sugar and mashing, and pouring off, until all is dissolved, putting into a suitable sized, clean cask, and stand with the bung out, for 2 weeks; then bung down till Spring; when it will be fit for bottling; or it may remain in cask if you choose; but it will be better if bottled, although most people would be glad to have it, even, in casks. It makes a very valuable *tonic* Wine, suitable for nearly all medicinal purposes. Age still improves it.

2. **Wines from the Wild Grape.**—Take any quantity of sound, Wild Grapes; with a common cider press, press out the juice, put it into barrels cover the bung tightly; after fermentation has ceased, cork it; place in the cellar: In 12 months you will have good Wine, which improves by age; let it stand on its lees—not stirred nor racked.—*Scientific American*.

3. **Ginger Wine.**—Take 16 qts. of soft water, and boil it; add 1 lb. of bruised Ginger root; infuse (steep) it in the water for 48 hours, placed in a cask in a warm situation; after which time, strain off this liquor and to it add 8 lbs. of lump sugar, 7 qts. of brandy, the juice of 12 lemons, and the rinds of 12 oranges; cut them; steep the fruit and rinds of the oranges for 12 hours in the brandy; strain the brandy; add it to the other ingredients; bung up the cask; and in 3, or 4 weeks it will be fine; if it should not, a little dissolved isinglass will soon fine it. *i. e.*, settle it and make it clear.

4. **White Wine—from Cider.**—Nice apple cider, made without water. 16 gals.; nice strained honey, 16 lbs.; white tartar (argal, or white tartar is the deposit of Wine upon the sides of the cask), 4 ozs.; cinnamon, cloves, and mace, of each, 1 oz.; rum, 1 gal.

Thoroughly mix the honey, cider, and argal. Tie the bruised spices in a cloth and suspend them in the Wine, while fermenting. After the fermentation add the rum. Where honey cannot be readily obtained, I should nearly as soon use white sugar lb. for lb.; but there is a little different flavor from the honey.

Whitewash that will not Rub off.—To every pail of Whitewash, prepared in the ordinary way, add a pint of flour made into starch or paste. To the Whitewash for the hen-house add gas-tar, a gill to a pailful. This will prevent or disperse lice.

YEAST—In Rhyme—very Fine.

A handful small of fragrant hops deposit in a kettle;
Then add a pint of Adam's ale, and boil them till they settle;
Then if you wish to brew good Yeast, lively and sweet, you'd *oughter*
Take four potatoes, medium sized, and wash them well with water;
Divest them of their jackets next—in common parlance, *skin 'em*—
And faithfully dig out the eyes; there's dirt imbedded in 'em—
Then make assurance doubly sure and banish all pollution,
By subsequently giving them another grand ablution;
Then boil them—half an hour, perhaps; of course, your judgment using,
Or steam them, if you like it best; the method's of your choosing.
But whether boiled or cooked by steam, the process should be rapid.
Potatoes *moderately* cooked are heavy, soggy, vapid.
Then mash them thoroughly, each lump with vigor pulverizing,
And put them in a vessel which leaves ample room for rising;
A cup half filled with sugar add; 'twill sweeten it enough.
It needs the same amount of salt; you'll find it *quantum suff* (sufficient quantity).
The hop infusion strain in next, a pint, you mind, by measure;
Then with two quarts of water warm, dilute it at your pleasure,
And to gently keep it moving, from circumference to center,
Never fail to bid your *silver* spoon its hidden depth to enter;
Then add two brimming cups of Yeast, and quickly take occasion
The fragrant mixture to subject to brisk manipulation.
And, when the entire ingredients are mingled well together,
Then give the opportunity to rise, according to the weather—

In Winter set it near the stove, and oft renew the fire;
 In Summer place it farther off; the temperature is higher—
 Then patiently the issue wait, while Time his flight is winging,
 Its status scanning now and then; and when you hear it singing,
 And see upon its surface—now here, now there—a bubble,
 You'll feel a thousand-fold repaid for all your toil and trouble,
 Give to the winds all idle fears; all doubts, all scruples banish;
 And when the bubbles thicken fast, and crowd and break and vanish,
 The Yeast is prime, your toil is o'er, success has crowned persistence,
 And leaves of tender, light, sweet bread are looming in the distance.

Oliver Optic's Magazine.

CANCERS.—The importance of the following cures of Cancer, I deem to be of sufficient importance to justify their insertion here, as a knowledge of them, and, in fact their occurrence, took place after I had passed these subjects in their regular order.

A Cancer Cured in Fourteen Days—The Medical Faculty Non-plused.—Under this heading, the *Detroit Post*, of Dec. 31, 1872, with the leading sentence of "important if true," re-published a statement from the *Kansas City Times*, of Dec. 24th, that a large Cancer had been extracted, "root and branch, without pain, and by the simplest means from the left cheek of Mr. C. A. Chace, freight agent at Kansas City, of the Hannibal and St. Joseph Railroad."

But, as I have now reached the last page of the reading matter of the Book, I shall be compelled to condense the account given of the Cure, I will say however, that I deemed it of sufficient importance to write to the gentleman for a confirmation, or denial of the statement, and received the letter given below from Mr. Brooke formerly a resident of this city, with whom I was well acquainted, confirming the whole thing. There is no doubt, therefore, of the truthfulness, of the report.

The Cancer first made its appearance on Mr. Chace's left cheek just below the eye, 6 years before, as a small red spot, which developed, or grew into what is known, no doubt, as a *Rose Cancer*, for which, for the last 2 years, says the statement, "Mr. Chace has tried every medical advice and treatment, and still the horrible protuberance continued to grow, and threatened ultimately to eat the face and cause him to lose the use of one eye. A council of physicians, was held a few weeks ago, when it was proposed to cut out the Cancer from the face." But at this time, a Professor Kellogg of that city who was proprietor of the Turkish baths, said that he could "Cure the Cancer in fifteen days if his directions were strictly complied with."

Accordingly "he was placed in the Turkish bath for 2 hours each day, for 7 days, with a temperature of 170, when it was found that the Cancer was dropping out entire. It first became red on one side and then burst the skin. Mr. Chace applied, by Prof. Kellogg's advice, a poultice, which aided in drawing the Cancer from the cheek."

The Cancer came out on the *fourteenth day*, with the roots, or "fangs, attached, leaving nothing except the ugly indentation in the face where the Cancer had been."

The Cancer in its shriveled condition, when extracted, was only "about the size of a hazel-nut."

"Mr. Chace and family are of course much delighted at this almost miraculous case, which is as surprising as it is important to the public. The discovery made and the cure performed by Prof. Kellogg by means of hot vapor baths is one of the most useful as well as the most remarkable on record."

Mr. Brooke's letter upon this subject was as follows:

KANSAS CITY, MO., March 28th, 1873.

DR. A. W. CHASE,

Dear Sir: Dr. Kellogg handed me to day your letter to him enclosing "clippings" on the Cures of Cancer by Turkish Baths asking as to their correctness, knowing I was acquainted with you, he wished me to answer, as you would be the more likely to give credence to the same from me. I have known Mr. C. A. Chace ever since he came to this city some four years ago, the Medical gentry advised the knife as the only alternative in his Cancer, but did not seem to like to undertake the job, poor Chace became very despondent when lo! Dr. Kellogg opened out here with a Turkish Bath. Mr. Chace began to take them, and in less time than that promised the whole of the mass dropped out, root and branch, leaving hardly a scar to mark the spot of the terrible destroyer. Mr. D. S. Twitchelle, formerly of Ann Arbor, also Mr. Spaulding, now Mr. Chace, well, and can also vouch for the Cure. Hoping you are still prospering, I remain,

Yours truly,

CHAS. BROOKE.

I will now bring the reading matter of the Book to a close, by saying that I have just cured another case of Cancer with DR. HALE'S CANCER REMEDY, as given on page 166, and therefore, still further recommend that Receipt.

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